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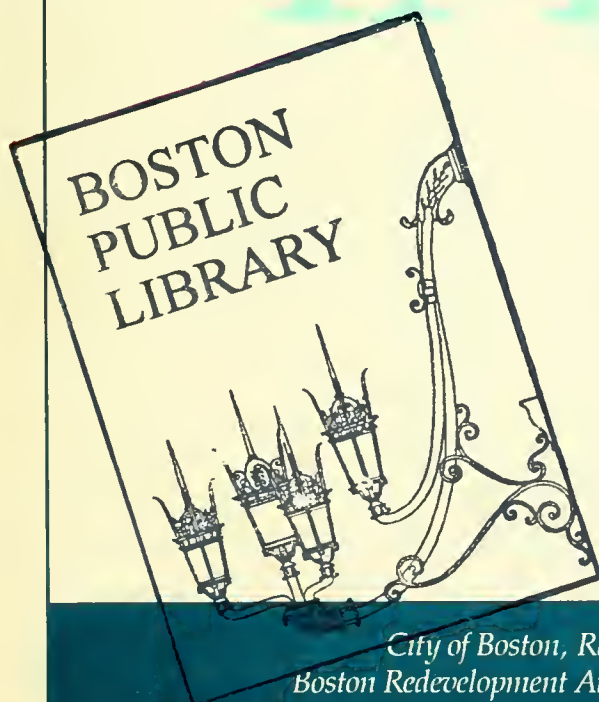


MASTER PLAN FOR THE YARD'S END

NAVY

C H A R L E S T O W N

YARD



DRAFT

*City of Boston, Raymond L. Flynn, Mayor
Boston Redevelopment Authority, Stephen Coyle, Director*

MARCH 1990

(revised)

Dear Fellow Citizen:

Since I first assumed the office of Mayor in 1984, the redevelopment and revitalization of the Charlestown Navy Yard has been among the highest priorities of my administration. The historic significance of the Navy Yard to Boston, its vital contribution to the Charlestown community, and its economic importance to workers throughout the Boston Area are but three of the reasons why the Charlestown Navy Yard is such a high priority.

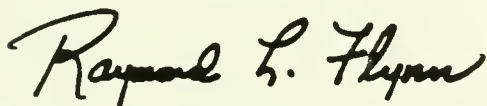
Over the past five years, the Navy Yard has experienced nearly a half billion dollars in private investment. The results of this investment have been the creation of housing, commercial offices, hotel facilities, and recreational and open spaces. With the leasing, by Massachusetts General Hospital, of now 650,000 square feet of medical research space, the Navy Yard has also become one of Boston's most important areas for "new economy" development and job opportunities.

Despite these numerous achievements, there remains much in the way of economic potential to be realized in the Charlestown Navy Yard. In order for this potential to be fully realized, we must ensure that bridges of opportunity are built between the residents of Charlestown and the economic growth that will occur in the Navy Yard. Indeed this was a shared concern among the community residents and leaders with whom I met at the Parkman House on February 4th of this year. It is also a fundamental concern of my administration.

The Master Plan detailed in this document provides a blueprint of how the full economic potential of the Charlestown Navy Yard will be achieved. It is the product of some 85 community meetings and the tireless efforts of hundreds of committed Charlestown residents over nearly three years. It is also, and perhaps most importantly, a reflection of the community's vision for the future of the Navy Yard, a vision shaped in conjunction with City officials, developers, and others who share a deep interest in that future.

I wish to express my sincere thanks to everyone who has been involved in development of this Master Plan for a job well done. I also look forward to working with all of you in transforming this Plan into the reality of economic opportunities and benefits that is the true promise of the Charlestown Navy Yard's future.

Sincerely,

A handwritten signature in black ink, reading "Raymond L. Flynn". The signature is written in a cursive, flowing style with a large, prominent "R" and "F".

Raymond L. Flynn
Mayor of Boston

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Introduction

Introduction

The Charlestown community and the City have held workshops over the last eight weeks to modify the Charlestown Navy Yard Masterplan that was presented in late January. These workshops have served to identify the planning principles that underlie the Navy Yard Master Plan and the accompanying zoning. Since the conclusion of these sessions the Boston Redevelopment Authority has made changes based on the issues raised at these sessions, that has now resulted in a final master plan for the Charlestown Navy Yard.

The last 36 months of public process that included over 85 public meetings with the Charlestown Neighborhood Council and the community has set the groundwork for over \$875 million in development over the next 10 years. This 100 acre historical area will present an opportunity for us all to share in the growth of the economy while bringing direct economic benefits to the adjacent neighborhood and the city.

Shaping a master plan that is sensitive to the concerns of all has been a challenge to everyone involved. What has resulted is a final plan that has met this challenge and tapped into the growth trends of the 1990's and beyond to assure all that this plan can be implemented.

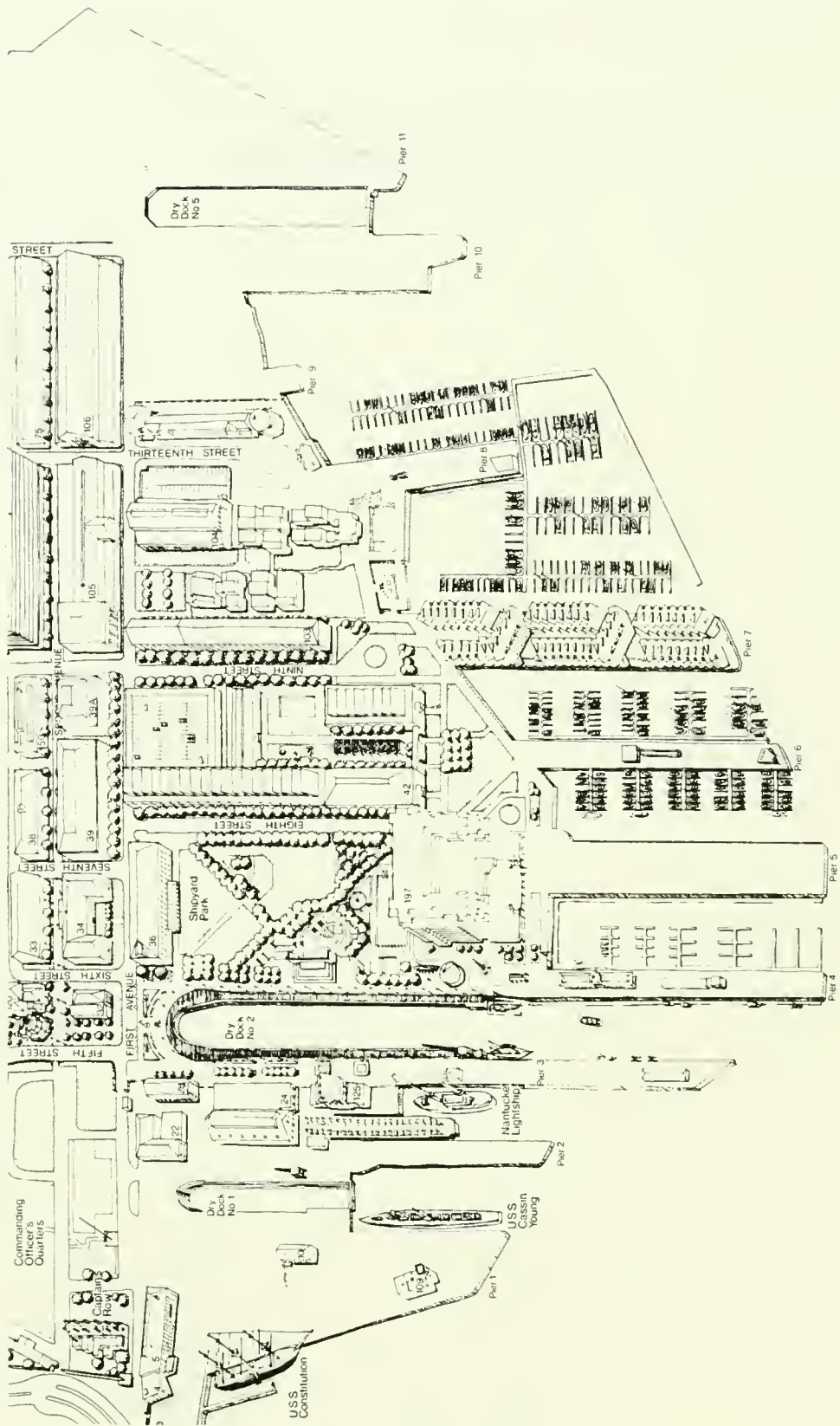
With the submission of this final plan, we would like to thank all the members of the Charlestown Neighborhood Council past and present, the Harborpark Advisory Committee, and the members of the community who were dedicated in their wish to see the plan come to finalization yet serious in their need to challenge the conventional planning wisdom.

The challenge of completing the Charlestown Navy Yard by its 200th birthday in the year 2000 is now upon us all with the knowledge that the input of all has created a better plan.

Please accept for your support and approval the Charlestown Navy Yard Master Plan.

Dennis McLaughlin, Chairman
Charlestown
Neighborhood Council

Paul Barrett, Assistant Director
Harbor Planning & Development
Boston Redevelopment Authority



General Context Charlestown Navy Yard

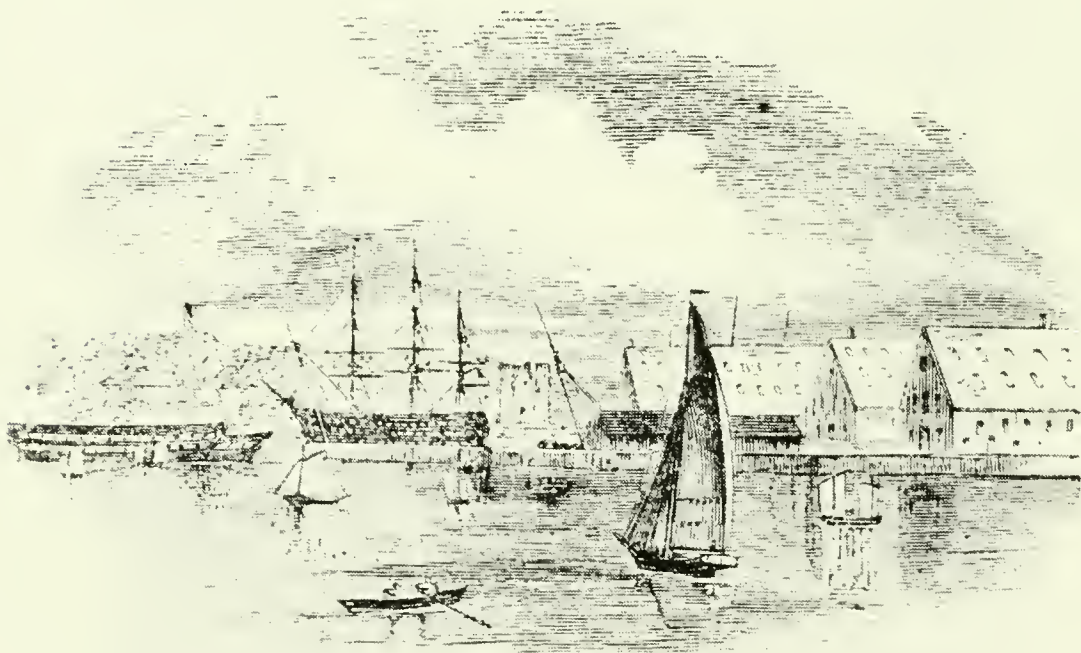
History of Charlestown Navy Yard

History of Charlestown Navy Yard

by Leslie Larson

On Bunker Hill Day in the year 2000, the Charlestown Navy Yard will be 200 years old. On June 17, 1800, the Massachusetts Legislature approved an act, in honor of the 25th anniversary of the Battle of Bunker Hill authorizing the United States to purchase a tract of land in Charlestown for use as a Naval yard. The first 23 acres of land were purchased on August 16, 1800, at a price of \$19,350.

The Navy Yard exhibited a rural character during its first 30 years, consisting of a few scattered buildings, docks and wandering roads on a peninsula used for grazing cattle. The first structures built were simple sheds to house Navy material, consolidated from various locations. In 1803, Building 5, now the National Park Service Information Center and USS Constitution offices and crew quarters, was constructed. The Commandant's House, believed to have been built by Charles Bulfinch, was completed in 1809. The Navy Yard's first ship house was constructed in 1813, enabling ships to be built indoors year-round. The



Navy Yard in 1858

first ship off the ways was the U.S.S. Frolic, an 18-gun sloop launched on June 22, 1813.

In 1826, Alexander Parris completed the 2,400 foot granite wall along the westerly edge of the Yard at the same time his Quincy Market Building opened in Boston. The first granite building in the Navy Yard was the Dry Dock Engine House, Building 22, which now houses the USS Constitution Museum, built in 1832. Dry Dock 1 was built in 1833 of granite from Cape Ann quarries. It was the second dry dock to be built in the nation, completed one week after the first in Norfolk, Virginia. The first ship to enter Dry Dock 1 was the USS Constitution, which was built in the North End of Boston in 1797.

In 1830, Colonel Loammi Baldwin, the "father of civil engineering in America," prepared plans to expand the Navy Yard into an industrial complex. The plans laid out the Navy Yard in a classical grid, dominated by five broad avenues with rectangular buildings conforming to the new street pattern, with the exception of the Ropewalk, drawn at a diagonal, parallel to the Salem turnpike.

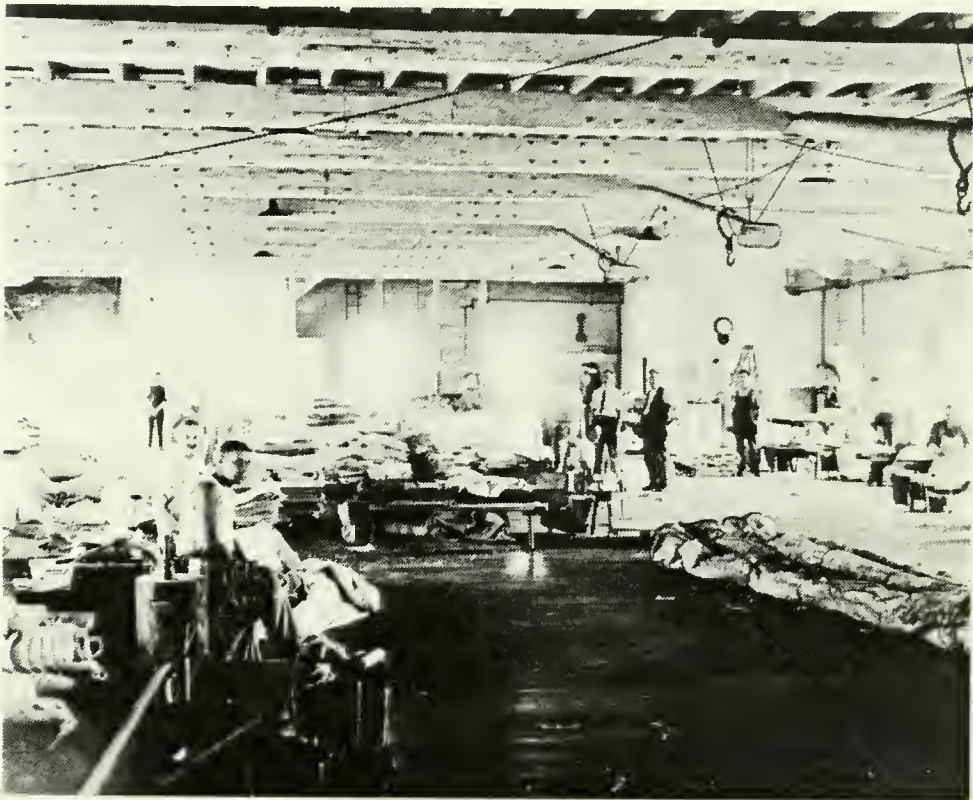
Parris was engaged as the superintendent to complete the dry dock and several new buildings. Parris' Ropewalk, Tarring and Hemp Houses were completed between 1835 and 1837. The buildings incorporating unique state-of-the-art spinning and twisting machinery powered by steam boilers and engines, all designed by Boston inventor Daniel Treadwell.



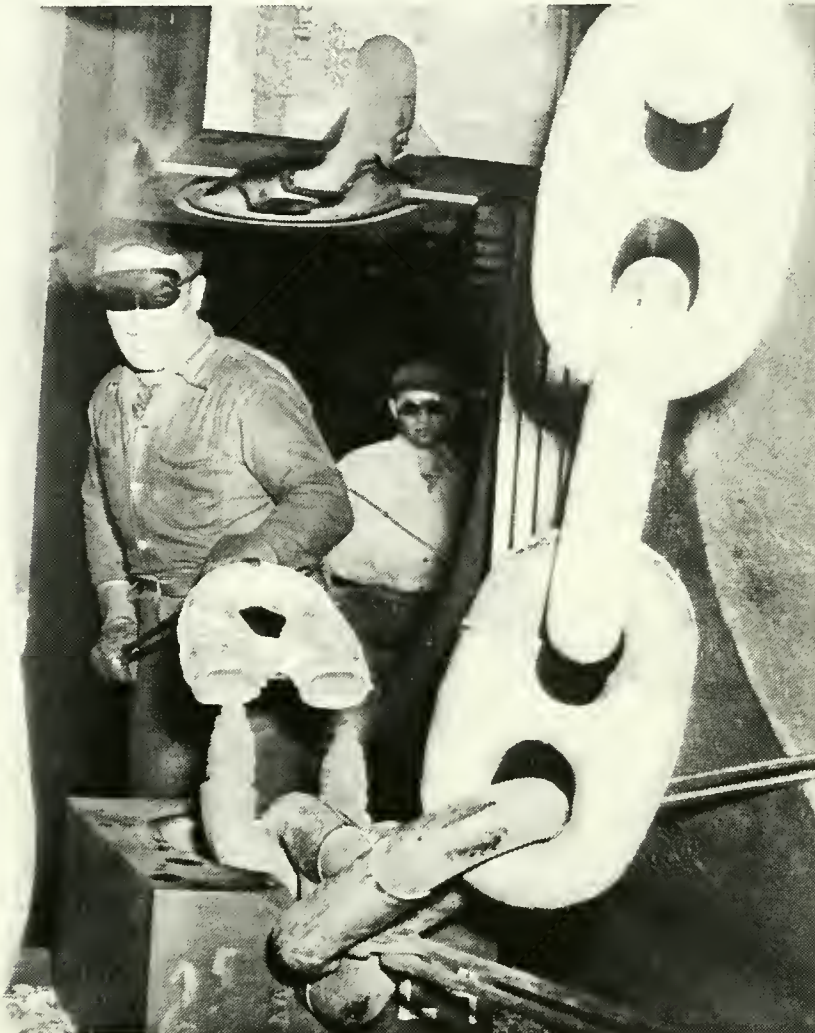
Ropewalk

Thirty-nine ships of war were built in the Navy Yard from 1813 to 1868 and many hundreds were repaired and outfitted. In 1855, the ironclad USS Merrimack was launched and later engaged by the Monitor in one of the Civil War's most famous sea battles. After the Civil War, new ship construction came to a virtual standstill. During the period from 1869 to 1933, the Navy Yard specialized in the repairing and outfitting ships.

Construction of Dry Dock 2 began in 1899. It was first occupied by the USS Maryland on August 12, 1905. Between 1900 and 1920, an extensive building program produced ten additional brick buildings and a new marine railway. During World War I the Navy Yard was used as an embarkation point and a supply depot as well as a repair center, with employment rising to 10,000.



Interior Building 33 (Bostonian Society)



Building 105 - Die Lock Chain Making

In 1926, "Die-Lock Chain" was invented by two shipyard employees — A.M. Leahy and C.G. Lutts — during World War II, returning the Navy Yard to the forefront of naval research activities. At its peak, there were almost 50,000 workers at the Navy Yard. Women made up over 40% of the workforce in 1944, being responsible for welding, painting, sheet metal cutting, rope making, and electrical assembly jobs. A total of 141 ships were built and over 3,200 ships overhauled during this period, and in 1943, a record of 46 destroyer escorts were built, 44% higher than the Bureau of Shipbuilding quotas. The Navy Yard payroll at that time was over \$144 million. Work hours then were from "sunrise to sunset" with wages of \$1.00 to \$1.50 per day.

Shipbuilding virtually ceased after World War II, with the last ship built at the Navy Yard being the Land Ship Tank, USS Suffolk County in 1956. Once again, the Navy Yard returned to specializing in the repair and outfitting of ships. For example, the first guided missile destroyer, the USS Gyatt, was converted at the Navy Yard in 1957, and bow mounted sonar booms for guided missile destroyers began to be installed in 1961.

In 1971, production ended at the Ropewalk, which was the sole producer of all of the rope used by the Navy from 1838 until 1955. Finally, the Navy Yard was decommissioned by President Nixon in 1974, ending employment for 5,200 workers. In all, over 500 ships were built during the Navy Yard's 174 year history, with the USS Constitution being the first and last ship to be repaired at the Navy Yard.



1943 Navy Yard Workers Shift Change

The Navy Yard was designated a National Landmark in 1977, and acquired by the city in 1978, which coordinated redevelopment efforts of one hundred acres, including the Historic Monument Area. The National Park Service retained ownership and management duties for the thirty acre National Historical Park, which features the USS Constitution and Dry Dock 1 at the Navy Yard's western end.

Nineteen buildings have been rehabilitated and over 2 million square feet of construction has begun. The Navy Yard is the largest preservation and reuse effort in the country, with the private sector investing \$469 million through 1989. Completed and proposed construction and rehabilitation investments include over \$1.3 billion in private funds.



USS Constitution

Navy Yard Redevelopment Update

Navy Yard Redevelopment Update

To date, redevelopment of the Navy Yard has successfully achieved many of the original goals for its revitalization. In 1978, upon the City's acquisition of the Navy Yard from the Federal government, rules governing the Navy Yard's reuse were carefully crafted to ensure sensitive preservation and reuse of this nationally significant former industrial site. The objectives of the 1978 Program of Preservation and Utilization for the Historic Monument Area have largely been realized, a testimony to the care and vision of the Federal, State, and local authorities who crafted the plan.



Aerial of Navy Yard looking towards Boston (Landslides)



Muster House

1978 Initial Plan

The transfer in 1978 of the Navy Yard from the Federal Government to Boston's planning agency, the Boston Redevelopment Authority (BRA), required that a thoughtful plan for the Navy Yard's redevelopment be implemented. The Federal Government, state and local historic preservation officials, and the BRA worked together to draft the original plan.

The plan first divided the Navy Yard into three sections: the Park Parcel (including Piers 3 and 4 and Shipyard Park), the Historic Monument Area, and the New Development Area (Piers 5 through 10, the area east of First Avenue and Yard's End). A Program of Preservation and Utilization was developed for the Historic Monument Area, while Design Guidelines were established for the New Development Area.

Given the complexity of rehabilitating, reusing, and preserving buildings in the Historic Monument Area, the Program of Preservation and Utilization is necessarily a detailed and comprehensive plan. The success of the Federal Government in its administration is proven by the

outstanding reuse and preservation of three quarters of the buildings in the Historic Monument Area.

At the same time, Design Guidelines for the New Development Area administered by the Massachusetts Historical Commission have governed development along the waterfront. The successful use of this area primarily for housing indicates the Design Guideline's ability to help revitalize this portion of the Navy Yard.

In 1984, a new planning initiative was undertaken for the entirety of Boston's waterfront — HARBORPARK — which establishes guidelines that leverage the economic attractiveness of waterfront development to secure public benefits. The principal goals of Harborpark are to provide an open accessible waterfront that includes opportunities for recreation, affordable housing and jobs for Boston residents. Harborpark will also result in improved public transportation, additional tax revenues, and a variety of cultural attractions. Harborpark goals are compatible with the



Harborpark Day

original plans for the Navy Yard, and have enhanced the original objectives of providing a new place to live to work by and to play.

Redevelopment of the Navy Yard has been directed to ensure that the Charlestown community shares in the benefits of the Navy Yard and Harborpark. The challenge involved developing a new economy with well-paying jobs that could once again provide a source of employment for neighborhood residents. A diverse economy, rather than one solely reliant on office and service sector uses, was envisioned to provide a broad range of permanent as well as construction jobs.



Building 34

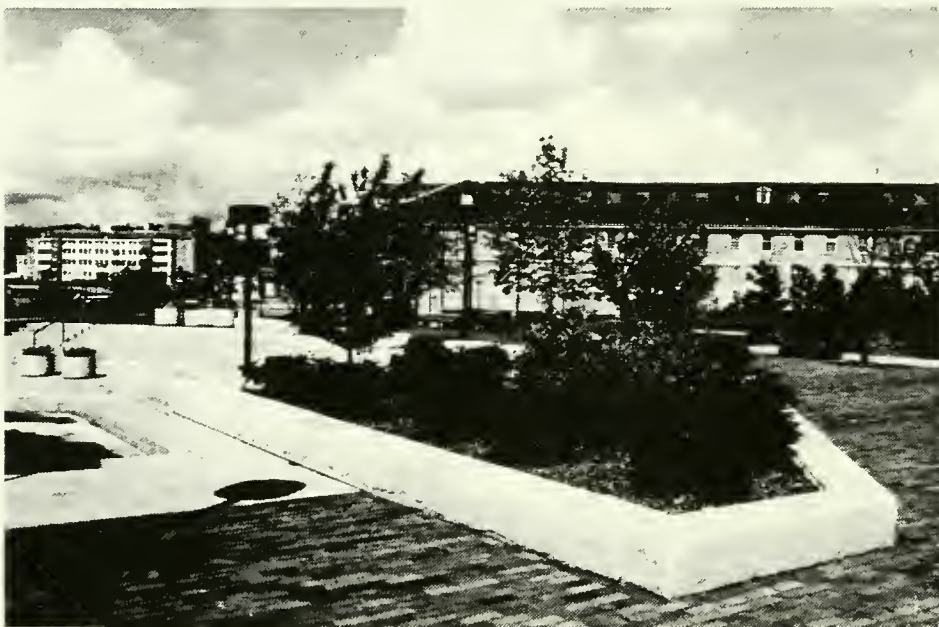
Since the implementation of the Program of Preservation and Utilization, the Design Guidelines, and the Harborpark policies, the Navy Yard has exhibited substantial growth and vitality. Since 1978, \$450 million in private funds have been invested in the Navy Yard, resulting in a successful rejuvenation of the Navy Yard as a part of the neighborhood. The Navy Yard has become an integral part of the Charlestown community open to all to live, to work, and to play. Three thousand permanent jobs and 1,900 construction jobs have been created in the Navy Yard, and the city now realizes annual tax revenue of over \$6.8 million.

Over 2,000,000 square feet of space in new and rehabilitated buildings has been completed. The number of construction jobs in the Navy Yard in

the 1980s was 2,000. Permanent jobs have increased to 3,000 in 1989. The City's efforts to establish a diversified new economy bore fruit in 1987 with the opening of the Massachusetts General Hospital Research Center in Building 149.

A commitment that 25% of the total housing built in the Charlestown Navy Yard would be affordable was established by Harborpark and increase over the original ambitious goal. Of the 574 housing units constructed from 1984 to 1989, 171 units, or 30% of those built in this period, were affordable, leading to an affordability percentage of nearly 20% today.

Ten historic buildings in the Historic Monument Area have been meticulously restored to new uses and four more are nearing completion, all in accordance with the original Program of Preservation and Utilization. The numerous preservation and design awards garnered by these projects testify to the high standards of historic preservation that have been achieved.



Shipyard Park

Over 13 acres of open space, including the completion of Shipyard Park, the Second Avenue pedestrian mall, and 8,000 linear feet of Harborwalk, have been completed. The open space, pedestrian walkways and benches around Dry Dock 2 and within Shipyard Park have become cherished recreational amenities for all of Charlestown.

The Courageous Sailing Center was established in 1987, with the two-time America's Cup winner "Courageous" as its flagship. Last year over 3,000 youths from Charlestown and other Boston neighborhoods throughout the City had a free opportunity to learn and experience the pleasures of sailing in Boston Harbor on a fleet of thirteen Rhodes sailboats. More than 75% of the summer employees of the Center are Charlestown residents.

There are plans to construct a new facility for the Sailing Center on Pier 4, which would also provide headquarters for Boston's challenge in the upcoming America's Cup race. The Christina Group will head the challenge and coordinate the plans for construction of the non-profit facility. The presence of a world-class sailing event managed out of the Charlestown Navy Yard will accent the recreational and marine-related focus of Boston's waterfront.



The Courageous under sail

A water shuttle from Long Wharf to the Navy Yard began operation in 1987, and today is nearing 100,000 riders annually. This service alleviates vehicular traffic problems in Charlestown and the Navy Yard.

In 1989, a 3,800 square foot day care center was opened in Building 36 providing 48 slots for infants, toddlers and pre-schoolers. Another day care center under development in Building 266 will accommodate 90 more children. An additional center is planned for the new development at Yard's End.

Events such as the annual Harborpark Day draw residents from Charlestown and the entire City to the Navy Yard on a regular basis. In 1989, Harborpark Day and Harborfest attracted over 12,000 people to the enjoyment of Chowderfest, puppet shows, musical performances and relaxation alongside the waterfront. Charlestown non-profits and businesses share in the prosperity of Harborpark Day with food and pushcart facilities in the Navy Yard.

The general goals for housing for working families are best symbolized by the Bricklayers and Laborers Union affordable housing development at First Avenue and Thirteenth Street. This project provides homeownership for 50 working families. Large two and three bedroom units are tailored to the needs of family life. The overall massing reinforces visual and access corridors to the water's edge. That the handsome brick design fits naturally into the historic Navy Yard is well recognized by the numerous awards this project has already received.



Aerial of Navy Yard looking towards Boston (Landslides)

Boston's success in aggressively targeting development in the Charlestown Navy Yard in recent years can be measured by the amount in private investment, which exceeded \$450 million between 1978 and 1989 and is expected to grow to an anticipated investment of over \$800 million through 2000.

The Navy Yard has captured the interest of Boston's largest growing industry, biotechnology, to anchor permanent facilities. The attraction has expanded to the international biotechnology community. Also, the presence of the Aquarium, with the added aspect of marine-related education and research, will mark the Navy Yard as a base for an even wider scope of research and development. This will help bring Boston and Charlestown through the 1990s into the next century with a diversified employment base.

In retrospect, the 1980s were a critical period for the successful redevelopment of the Navy Yard. Local financial wisdom initially viewed the Navy Yard's prospects for success as limited. The redevelopment which has occurred established the economic viability of the Navy Yard and provided the foundation for future economic opportunities, while validating the initial vision to rebuild the Navy Yard on the basis that effective and careful preservation and reuse would result in the greatest public benefit.

NAVY YARD DESIGN AWARDS

Project	Architect and Developer	Award
Bricklayers' Housing (new construction)	William Rawn Associates for the Bricklayers Union	Honor Award, Waterfront Center, 1989 Best of 1988: The New York Times and Time Magazine
Building 149 (adaptive reuse)	Huygens DiMella Shaffer for the Congress Group, the Raymond Group and the Navy Yard Bio-Technical Limited Partnership	Builder's Choice Design and Planning Award Program Grand Award, 1988; Building Design and Construction, Reconstruction Project Award, 1988; International Masonry Institute, First Award, Restoration Category, 1988; Renaissance Remodeling, Grand Award in Historic Preservation Category, 1988; Buildings Magazine, Modernization Awards, Honorable Mention, 1988
Shipyard Park (new open space)	Childs, Bertman Tsekare and Casendino for the Boston Redevelopment Authority	Presidential Award, 1978; Boston Society of Landscape Architects Award, 1978; Progressive Architecture Magazine, 1978
Urban Design Guidelines for the Navy Yard	Boston Redevelopment Authority	Progressive Architecture Magazine, Annual Urban Design Award 1978
Constitution Quarters Building 42	Notter Finegold Alexander for Ted Raymond	American Institute of Architects Award, 1982; Builders Magazine Award, 1982; Association of General Contractors Award, 1981



Navy Yard Rowhouses (William L. Rawn)

Boston's success in aggressively targeting development in the Charlestown Navy Yard in recent years can be visibly measured by comparing the increase in private investment, which has grown from \$36 million between 1978 and 1983 to \$433 million between 1984 and 1989 and an anticipated investment of over \$800 million through 2000.

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Bricklayers - Affordable Housing, (Kuen Huang)

The following rendering

Muster House and Second Avenue pedestrian mall

Herb Kashian



Yard's End: Plan To Manage Growth

Yard's End: A Plan to Manage Growth

The Master Plan for the Yard's End will manage the completion of the Charlestown Navy Yard as it is rebuilt for commerce, research, recreation, and city living. Throughout most of the last 200 years the Navy Yard was central to the life and economy of Charlestown. The objective of the Master Plan is to revitalize the Navy Yard and once again make it a central part of the Charlestown community.

The Master Plan takes advantage of the Navy Yard's waterfront location and proximity to downtown Boston. Despite its attractive location, Yard's End in the Navy Yard is still underutilized and uninviting. Its current state is the result of the decline of the Navy Yard that began with the end of the World War II. By the time of its closing in 1974, the Navy Yard employed about 5,200 people — a little more than one-tenth the wartime peak.



Bunker Hill Monument

The Navy Yard extends from the U.S.S. Constitution near downtown Boston to the Little Mystic River across from Chelsea, between Chelsea Street and the Harbor. It was long a center of Navy shipbuilding, employing as many as 50,000 people at the height of World War II. It already is the site of considerable historic preservation and reuse efforts for recreational, commercial, research, and residential uses. At the same time, the Yard's End section consists primarily of vacant land and underutilized historic buildings. This combination provides an ideal opportunity for completing the revitalization of the Navy Yard which will include new and existing cultural facilities, housing, offices, neighborhood businesses, and research institutions in both new and rehabilitated buildings.

To manage growth in the Charlestown Navy Yard, the 1987 Harborpark Interim Zoning Plan, the current zoning, requires the creation of a master plan. The Master Plan for the Yard's End is a product of the community-based planning process initiated in the Harborpark Plan. The Master Plan, including permanent zoning policies, looks to build mixed-income housing, provide growth in new economic endeavors, preserve historic buildings, establish neighborhood business opportunities, protect and create open space, and improve local transportation systems.



Parcel 4



Shipyard Park

Since its acquisition by the Boston Redevelopment Authority (BRA) in 1978, the center of the Navy Yard has undergone a rebirth. In the 1990s, the Navy Yard's vacant parcels of land and underutilized buildings can be redeveloped to provide a large amount of space for the city's medical research industries, and become host to one of the city's most popular attractions, the New England Aquarium. Interest in the Yard's End is already high: Massachusetts General Hospital has an occupancy of more than 600,000 square feet of research space in the adjacent Building 149, and the New England Aquarium has decided to pursue relocation to the Yard's End.

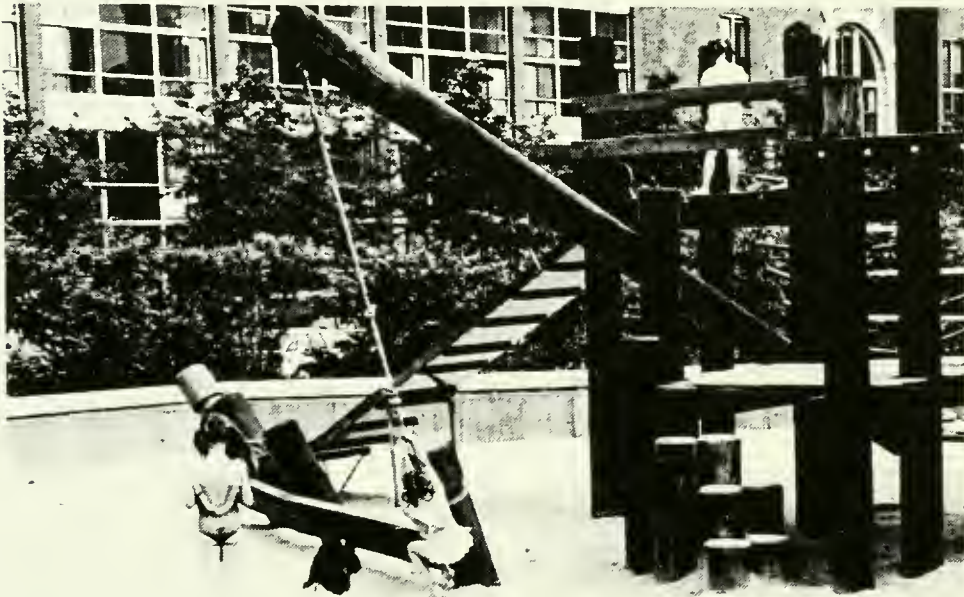
The revitalization of the Navy Yard is already well underway: Shipyard Park is in place, as is a 400 foot long public pier; 941 homes have been built or are nearing completion, 171 of them affordable to low and moderate income families; two public sailing centers, one for children (featuring the two-time America's Cup winner *Courageous*) and one for adults are operating; the necessary infrastructure of roads and utilities is in place; and fourteen out of twenty-one buildings in the Historic Monument Area have been or are being rehabilitated.

The new Navy Yard will become the largest mixed-income waterfront developments in New England, helping meet the need for affordable housing in Charlestown. The presence of both residents and the new Aquarium will help make the Navy Yard a lively and inviting area seven days a week. While 1008 units of housing have been built on BRA-owned land in Charlestown and in the Navy Yard in the past five years — 35 % of them affordable — affordable housing remains a critical need for Charlestown residents.

Land Use Strategies

The land use strategies for Yard's End, and the completion of the Navy Yard, are as follows:

- Create affordable housing to all sectors of the community, with priority to Charlestown residents, and maximize the opportunities for the creation of new housing;
- Create a quality public environment on the waterfront through Harborwalk by providing new open spaces and continuous public access to the water;
- Establish a land use plan which links economic activities, job and business opportunities, affordable housing opportunities, and active recreational activities for the Charlestown community;
- Manage growth so that appropriately-designed, mixed-use development occurs on the waterfront with benefits that are shared by all Boston residents;
- Balance economic growth in the new industries with environmental and quality of life considerations, to provide a diverse economic base;
- Direct the future economy from back office uses toward lower impact uses such as research and development.



The Master Plan envisions the emergence of a vibrant mixed-use community. The development program will help knit together Charlestown and the Navy Yard by providing affordable housing, neighborhood business opportunities, and job and recreation opportunities. These goals will be achieved through implementation of the following program for the Navy Yard and Yard's End:

- Provide economic opportunity and a diversified economic base at Yard's End, with a research center and major public educational facilities, by building a new Aquarium, creating 1.1 million square feet of medical research space in new buildings and constructing a 390-room hotel and conference center. In this way, the gains of one decade are not lost as shifts in the economy occur. The balance of office and research space and the Aquarium will help to insulate the economy from cyclical shifts.
- Meet Charlestown's needs by using the linkage money from new Navy Yard research and commercial buildings to fund affordable housing for Charlestown residents, by providing for the expansion of the Charlestown non-profit and business community into retail facilities adjacent to the new Aquarium, and by building affordable housing and elderly housing for Charlestown residents within the Navy Yard.
- Increase housing in the Charlestown community by building more than 300 units of new housing, 180 of them affordable for low- and moderate-income families, including 50 units of affordable housing in Building 104.
- Expand job opportunities for Charlestown and Boston residents, to build an active mixed-use area that will be home to 3,000 people and employ more than twice that number, including a job training and within the Navy Yard placement center to maximize opportunities for Charlestown residents in the secure, well-paying research field.
- Make the Navy Yard's transportation system more efficient by upgrading water transit facilities, constructing a new road for traffic to bypass City Square, cutting a new Gate 6 to create better vehicular access and circulation in the Navy Yard, and building new parking facilities for 1,495 cars.
- Complete the rehabilitation of the Navy Yard's historic buildings, with a particular focus on their potential for residential, cultural, and neighborhood business reuse.
- Upgrade and maintain the Navy Yard's open space network with \$750,000 of improvements to Shipyard Park, a new five-acre park at Yard's End, an extended Pier 3, landscaped pedestrian ways, and a completed Harborwalk — 3.3 miles of continuous public walkway along the water's edge (already 50% complete).

Development at Yard's End will produce benefits including more than 3,500 permanent new jobs and 3,400 construction jobs, over \$1 million in jobs linkage, more than \$6 million in housing linkage, and \$9 million annually in new property taxes.

The objective of the Master Plan is to manage growth in a way that continues to protect the Navy Yard's historic character and that of Charlestown while reestablishing the Navy Yard as a viable part of the life of the neighborhood and the City.

By the year 2000, the Navy Yard will be a well-known destination for residents, workers, and visitors alike, and a national model for waterfront redevelopment.



New Housing - Charlestown

The Yard's End Master Plan



CHARLESTOWN NAVY YARD MASTER PLAN

The Yard's End Master Plan

The Community Process

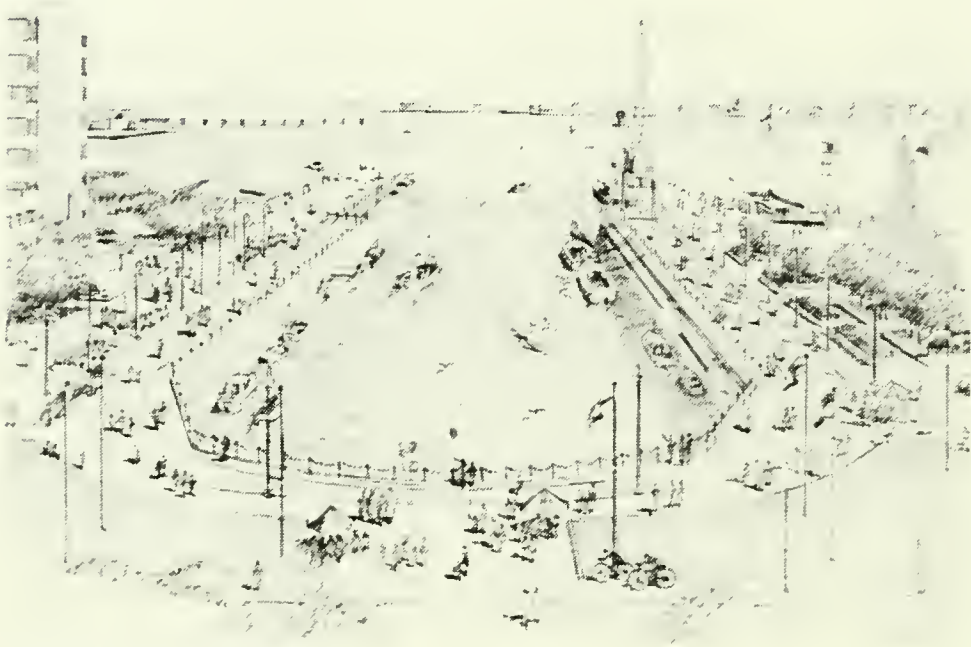
The Yard's End plan is the culmination of an extensive community process that commenced in 1987. Since that time over 85 public meetings have been held with Charlestown residents, local merchants, various harbor users, organized labor and other interested organizations to create a plan that fulfills the goals that have been espoused through the three-year process. The recurring themes have been affordable housing, increased open space and public access, historic preservation, cultural uses, neighborhood economic development, and job opportunities, while managing the transportation issues related to this growth.

The planning principles that evolved from this bottom up process have established the framework for the next decade of revitalization of the Charlestown community and its Navy Yard. Future development in the Navy Yard must respond to the primary goals established by the community. At the same time, the City is committed to working closely with the Massachusetts Historical Commission to ensure that new development adheres to carefully crafted design guidelines for Yard's End.

The following goals and objectives for the Master Plan have been established by the BRA in conjunction with the Charlestown community and private developers within the Yard. Modifications have been made to reflect community input since the introduction of the Master Plan in January regarding the issues of affordable housing, open space, job creation, transportation access, and zoning.

- Develop market-rate and affordable housing and home ownership opportunities, with a goal of achieving an on-site affordable housing ratio of 25 percent.
- Produce attractive commercial and retail space to accommodate the expanding Boston economy, and to create a wide range of employment and business opportunities for Charlestown residents.
- Achieve a balance between residential, open space, commercial/retail, hotel, and waterfront uses.
- Create a substantial and attractive system of public open spaces, waterfront access, recreational opportunities, and exciting public attractions, for people of all ages and backgrounds to use and enjoy.

-
- Realize a maximum amount of public benefits, including construction and permanent jobs, new taxes, and various linkage programs.
 - Rehabilitate and adaptively reuse the Navy Yard's many historically significant structures and elements, while successfully integrating contemporary urban design solutions to refit the Navy Yard for its new life.
 - Manage increased traffic levels to prevent traffic congestion in the Navy Yard and the Charlestown neighborhood.
 - Maximize community participation and input into the planning and decision-making process which will shape the development and character of the Navy Yard.



Dry Dock 2 - Shipyard Park

The Yard's End Development Program

Yard's End is well suited to accommodate the medical research, cultural and hotel uses planned between 1990 and 2000. This area includes approximately 12 acres of predominantly vacant land at the periphery of the Historic Monument Area. The few remaining structures date from periods of construction in the 20th century and contribute little historic character. Dry Dock 5, for example, was built as a temporary facility, during World War II, of concrete and sheet steel and is now in derelict condition. The piers to either side are deteriorated and in unsafe condition. Building 114 was ravaged by fire in 1980 and remains a vacant shell.

In sum, redevelopment envisioned at Yard's End includes the following:

- The New England Aquarium at Dry Dock 5/Parcel 5;
- A medical research center totaling up to 1.1 million sq. ft.;
- A 390-room hotel/conference center with 175 parking spaces;
- New retail facilities adjacent to the new Aquarium, to serve as a festival market place planned and run by neighborhood businesses,
- An 1,100-car parking facility in Yard's End;
- Ground level service retail to animate public spaces; and
- Over 5 acres of new public open space.

The proposed development at Yard's End totals 1,725,000 square feet. This total is 250,000 more square feet than the 1,475,000 proposed by the BRA in its May 10, 1988 Master Plan, and about 258,000 more square feet than the 1,467,280 proposed in the community's August 11, 1988 Master Plan. The difference represents about 5% of the total development in the Navy Yard — an increase in floor area ratio (FAR) of .055. By the measure of the 1988 plans, the new plan increases the Navy Yard FAR from 1.029 to 1.084. Yet with the shift in the mix of uses to lower peak hour traffic generators, development in accordance with the plan will have less traffic impact than the 1988 plans.

Charlestown Navy Yard Development 1978- 2000

	1978-1989	1990-1995	1996-2000	Potential Buildout in Special Study Area
Affordable Housing	154,400s.f. (171du)	64,000s.f. (50du)	100,000s.f. (100du)*	*
Market Rate Housing	1,083,000s.f. (770du)		198,000s.f. (110du)	*
Medical Research	630,000s.f.	550,000s.f.	550,000s.f.	
Office	343,000s.f.	60,000s.f.		*
Retail	113,000s.f.	34,000s.f.	24,000s.f.	
Hotel		350,000s.f.		
Cultural		275,000s.f.	195,000s.f.	
Total GSF (w/o Pkg)	2,323,400s.f.	1,333,000s.f.	1,067,000s.f.	250,000s.f.
Open Space	22 acres	7 acres	4 acres	*
Harborwalk	8,000l.f.	2,500l.f.		
Marina Slips	350	175		
Parking Spaces	3,105	1,275		*
* Composition of potential buildout by use to be determined through Special Study process.				
Project Phasing	N.A.	Building 104 Yards End, I Parcel 4 Aquarium Building 75** Building 114	Bldg. 40A Pier 5 Yards End, II Ropewalk Building 105	Building 39A Building 150 Building 108
Funds Invested				
Total Private	\$469,000,000	\$524,000,000	\$352,000,000	\$70,000,000
Permanent Jobs	3,016	2,400	1,400	*
Construction Jobs	2,100	2,300	1,100	300
Jobs Linkage	\$115,000	\$875,000	\$415,000	*
Housing Linkage	\$3,289,000	\$4,375,000	\$2,075,000	*
Property Taxes*** (Cumulative)	\$7,050,000	\$13,300,000	\$16,600,000	\$17,500,000

*To be determined through Special Study area process.

** Building 75 relocated to new location; replaced with new 1,100 car parking garage.

***Recurring yearly revenue in 1989 dollars.

1990-1995: Balanced Growth

In the first phase of Yard's End development, it is envisioned that 550,000 square feet of medical research space will be developed at Yard's End. In addition, a 390 room hotel with conference facilities is planned on Parcel 4 of Yard's End. The planned relocation of the Aquarium to Dry Dock 5/Parcel 5 will broaden the economic base to include off-peak activity within the Navy Yard. The total development will be limited to that already completed or underway in the Navy Yard.

As a result of these three projects alone, 2,400 permanent jobs will be created. In accord with the city's resident jobs policy, 50% of these jobs are expected to be held by Boston residents. Furthermore, a key aspect of the Navy Yard Master Plan is a concerted employment strategy to maximize participation of Charlestown residents in new employment opportunities. A goal of 25% of the new jobs created to be filled by Charlestown residents has been established.



New England Aquarium/Central Wharf

1995-2000: Completing the Navy Yard

The last phase of the Navy Yard redevelopment is timed to coincide with completion of the CANA roadway improvements. By this time other transportation improvements previously described should be in place or well underway, providing capacity to accommodate continued growth from 1995 to completion in 2000.

By the year 2000, approximately 7,000 people will work in the Navy Yard and upwards of 3,000 people will live there. Many will be drawn to the recreational amenities afforded by 34 acres of public open space and more than three miles of Harborwalk. Others will visit the Aquarium, USS Constitution, and other cultural uses such as the Chain Forge Museum, and the planned New England Antiquities Museum in the Ropewalk.

In historic, cultural and recreational resources, the Navy Yard will be on par with the Commonwealth's most historically significant places.

Most importantly, the Navy Yard will be a vital part of the Charlestown community. A minimum of 70% of the affordable housing built in the Navy Yard will be available to Charlestown residents and 25% of the new jobs created at the Navy Yard will be filled by Charlestown residents. A job training and placement center established within the Navy Yard will ensure a continuing source of employment opportunity for the neighborhood. The open space and Harborwalk will be publicly accessible to all. As a result of the hard work and participation of the Charlestown community in fashioning the Navy Yard Master Plan in partnership with the City, the Navy Yard vision can again become a vital part of Charlestown.

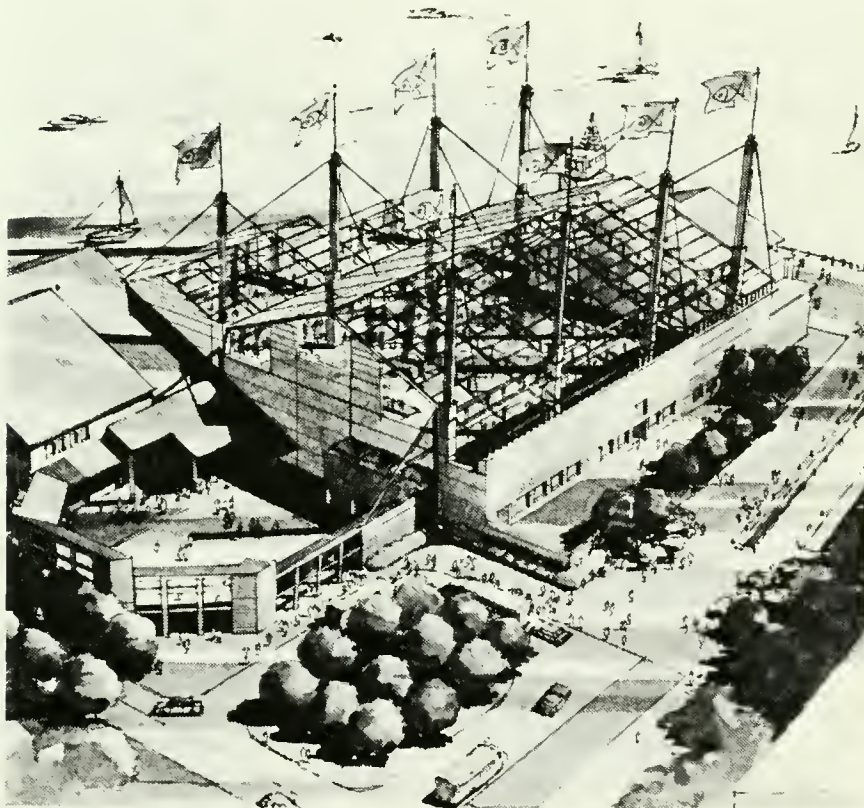


Harborwalk (Don West)

The Components of the Plan: New England Aquarium

Relocation of the New England Aquarium to Dry Dock 5/Parcel 5 will create a major public attraction at Yard's End. In 1988 alone, over one million adults and children toured the present Central Wharf facility — double its planned capacity. The Dry Dock 5/ Parcel 5 site provides an opportunity to construct an expanded facility that can accommodate the growing number of visitors and maintain the New England Aquarium's world class position. It also ensures continued presence of a pre-eminent waterfront destination on Boston Harbor.

The Navy Yard was identified as a potential new home for the Aquarium by its Board of Trustees in September of 1988. Following an extensive review period, during which the New England Aquarium and their consultants met on many occasions with the Charlestown Neighborhood Council and the Charlestown community, the Board of Trustees voted to pursue relocation at Dry Dock 5/Parcel 5. The Aquarium will continue to work with the Charlestown Neighborhood Council and the City of Boston to shape the details of their program.



New England Aquarium Dry Dock 5

(Dognik Lee)



The relocation of the Aquarium will bring with it many economic benefits for Charlestown, Boston and the region. The Aquarium currently employs 174 people at its Central Wharf location, 37% of whom are Boston residents. A relocated Aquarium at Dry Dock 5/Parcel 5 will result in a 100% increase in the number of job opportunities. In addition, 50% of the 1,360 construction jobs created will be awarded to Boston residents in accord with Mayor Flynn's Boston Jobs Policy.

Economic benefits will also result from the Aquarium's relocation and expansion plans. The expansion is expected to increase local annual day trip spending by Aquarium visitors from \$6,500,000 to \$9,000,000. Charlestown non-profits and businesses will be given priority for the creation of new retail facilities, which will capitalize on their proximity to the new Aquarium.

The new Aquarium will sponsor expanded educational programs for area school children. In addition, the Aquarium is discussing job training and educational programs for marine-related careers with the Bunker Hill Community College. An Elderly Volunteer Group program will be established.

The Dry Dock 5/Parcel 5 site will allow the Aquarium to construct the world's most technologically advanced facility for the study and exhibition of the marine environment. It will include a glass enclosed underwater walkway that takes people through the main exhibition tank with whales swimming above and below. The design is capped by a glass roof reminiscent of the 19th century Crystal Palace. This roof will be supported by structures resembling the masts of sailing ships giving the Aquarium a naval theme that will be recognizable from both land and sea. Ground floor activities include a bookstore, food service, and marine exhibits to enliven the surrounding open space and 2,500 linear feet of Harborwalk.

A major water transit service adjacent to the new Aquarium will help mitigate traffic impact on the Charlestown community. Water shuttle service to Central Wharf will be provided every fifteen minutes to encourage City visitors and residents to enjoy a boat ride to the Navy Yard as part of their Aquarium experience. The new Harborwalk signage system will direct people from the Freedom Trail to the Aquarium to encourage visitation by the large number of tourists who now walk to the USS Constitution from downtown Boston.

A dynamic not unlike that between two anchor stores in a shopping center will be established between the Aquarium at Dry Dock 5 and the USS Constitution. In addition, major public open spaces at Shipyard Park and Yard's End will further reinforce the cultural/recreational magnets at either end of the Charlestown Navy Yard, thus maximizing public access throughout.

Pedestrian activity is expected to increase along First Avenue as people walk between the two attractions. This will enhance the viability of service retail uses on the ground floor of existing and new buildings. A festive marketplace, with preference for Charlestown businesses and non-profits, is planned adjacent to the proposed new Aquarium and would benefit greatly from the increase in pedestrian flow.



Passenger water shuttle (Joey Libby)



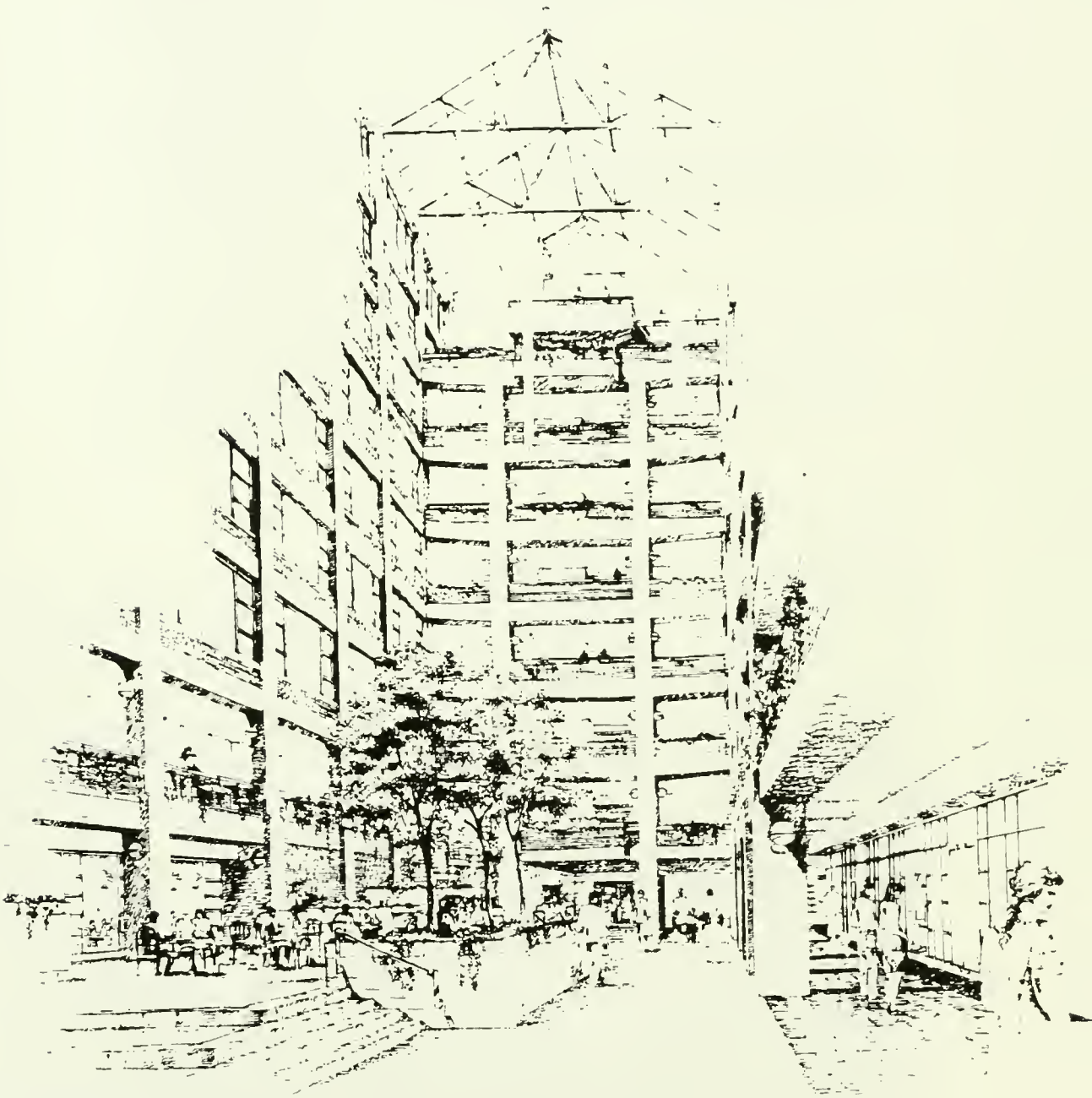
Building 149

Medical Research Center

Development of 1,100,000 square feet of biomedical research and laboratory space and related light manufacturing space is planned for Yard's End. The construction is scheduled to take place in two phases: a 550,000 square foot building between 1990 and 1995, and an additional 550,000 square feet for occupancy after January 1, 1995. This biomedical and technology research center will provide substantial job opportunities and linkage to the Charlestown community while supporting the rapidly growing biomedical and biotechnological sector of the Boston and regional economy. At the same time, each of the phases is considerably smaller than the present Massachusetts General Hospital Research Center at Building 149.

The development at Yard's End will provide community benefits in the form of affordable housing creation and job training assistance funds. Housing linkage of \$6,000,000 will be slated for affordable housing in the Navy Yard and Charlestown. An additional \$1,000,000 will be made available for job training assistance programs to teach local residents the necessary skills to advance in the biotechnology industry. The Yard's End medical research center will generate approximately 2,300 new permanent jobs as well as spin-off local business opportunities in the Charlestown community.

The large, vacant sites available at Yard's End make it possible to balance large floor plates, necessary for research tenants with the creation of open space. Building heights will be limited to 155 feet in order to preserve streetscapes, view corridors and the unique character of the Navy Yard. In conjunction with the New England Aquarium at Dry Dock 5/Parcel 5, over 5 acres of new public open space will be created at Yard's End



Atrium Building 149

Hotel/Conference Center

A 390-room hotel and conference center is planned for Parcel 4. The 98,000 square foot parcel is between the new Aquarium and the award-winning Bricklayers and Laborers affordable housing development. The hotel will meet the demand created by the Aquarium and research center, while providing 600 new jobs for residents of Charlestown and the City. The hotel will also assure that Yard's End remains active through evening hours.

The hotel will attain a height of 155' closest to First and Second Avenue and Sixteenth Street, and step down to 90' on the portion of the site adjoining the Bricklayers and Laborers housing. The overall massing will step down towards the water's edge and be set back 50 feet from the water's edge, and create a public waterfront open space. Parking for 175 cars will be provided underground.

The hotel is designed around a public open space with direct connections to the water's edge. Public amenities and activities planned for the waterfront include public docks, open-air restaurants and a water taxi connection to all points on the harbor. A brick garden wall and a row of stately elm trees is envisioned to provide a landscape buffer between the hotel and adjacent housing.



Aerial of Navy Yard (Landslides)

Neighborhood Business Opportunities: Charlestown Community Marketplace at Yard's End

The Yard's End master plan creates an opportunity to establish retail facilities on a prominent site between the New England Aquarium at Dry Dock 5/Parcel 5 and the medical research center at Yard's End.

A design treatment that emphasizes the distinct visual aspects of Yard's End is well suited to accommodate marketplace uses such as pushcarts, stalls, small shops and food service. The marketplace will assume the character of a pavilion in the Yard's End Park.

It is envisioned that a neighborhood-based not-for-profit organization will carry out this project. Charlestown Neighborhood Council direction and participation through all aspects of the project will assure that Yard's End truly becomes a vital part of the entire Charlestown community.

Navy Yard Housing Special Study Area

To maximize development of affordable and elderly housing in the Navy Yard, a Housing Special Study Area will be established. The Housing Special Study Area encompasses Buildings 39A, 40A, 108 and Parcel 150. The Special Study will focus on creating affordable housing, housing for the elderly, and necessary priority for Charlestown residents.

The four sites within the Housing Special Study Area have the potential to yield 300 additional units of housing in the Navy Yard. This total represents about 30% of the housing currently developed in the Navy Yard, and about 25% of housing in the Navy Yard built or already in the planning stages. Maximizing housing development in the Special Study Area will further the objective of revitalizing the Navy Yard as a critical component of the Charlestown community.

Yard's End Parking

At present there are 1,386 parking spaces located within Building 199. Projected future buildout at Yard's End will require the addition of about 1,495 parking spaces to the current inventory. One hundred seventy-five spaces will be built in conjunction with the hotel/conference center and 220 will be constructed in conjunction with the Research Facility. The remaining 1,100 spaces will accommodate the needs of the Aquarium, the medical research center and attendant retail uses. With the exception of a relatively small facility such as the 175-space garage serving the hotel/conference center, the development of significant below-grade parking is not feasible at Yard's End. The area consists of land fill, making construction of underground parking extremely costly. The parking plan contemplates construction of parking within the Yard's End buildings.

A Diversified Economy

During World War II approximately 50,000 were employed in the Navy Yard. In the early 1950's upwards of 30,000 people were still employed. Generations of Boston and Charlestown families depended upon the Navy Yard for jobs and livelihood. Charlestown businesses such as restaurants, service retail and other convenience stores felt the economic boost of this employment center. The number of Navy Yard employees had declined to 5,000 by 1974 when the Nixon Administration closed the facility. Coupled with the closing of the Schrafft's Candy Company and subsequently the Revere Sugar Company in 1984, the economic lifeline of long-term Charlestown and Boston families was significantly impaired. The necessity of creating new jobs for local residents was clear. In response, new city policies created an era in which assurances were guaranteed that Boston residents would receive preference in obtaining newly-created jobs. The net addition of over 3,000 new jobs in the Navy Yard since 1978 has begun to relieve the economic pressures which Charlestown suffered with previous job losses.

Despite slowing economic conditions and the state fiscal crisis, Boston is uniquely positioned not only to maintain a strong local economy but also to lead the region in economic recovery. Research conducted by Boston's prominent institutions of higher education and medicine will continue to spawn industries in biotechnology, pharmaceutical products, computer software, medical instruments, and high technology. This economic potential will lead the revitalization of the Charlestown Navy Yard. The Mass General Hospital Research Center at Building 149 heralds the emergence of the Navy Yard as a primary center of this new economy.

Nine of the top eleven U.S. hospitals receiving the most National Institutes of Health (NIH) funding for health care research in 1985 were Boston institutions. Competition is keen nationwide for the NIH funding, but Boston continues to lead all other cities in receipt of research dollars per capita.

One of the most important economic benefits generated by the medical research industry is the broad range of job opportunities, across a wide spectrum of education and salary levels. According to the Medical Industry Survey prepared by the BRA Research Department in 1987,

approximately 55% of the jobs in medical research being conducted at Boston hospitals are held by people with no higher than a Bachelor's degree, i.e., by people without "advanced" degrees. The biomedical research industry is rapidly evolving, and additional positions in finance, production, quality control, marketing, sales, and other functions supporting the basic research will be created as the industry matures.

Employment Trends

With the emergence of the biotechnology Research&Development industries, the City is developing job training and educational programs aimed at producing a local community prepared for employment in the Navy Yard's growing industries. Training assistance will be critical for Charlestown to capture its percentage of new jobs. In 1980, 48% of all jobs located in Charlestown were in manufacturing and only 1% were in finance, insurance and real estate. These figures will change significantly as manufacturing jobs decline and professional and services sector jobs increase. Charlestown must be prepared to meet these changes. Future development at Yard's End will provide the following jobs:

Construction Employment — 3,400

All developments will include a Boston Residents Construction Employment Plan, requiring efforts by the contractors to provide 50% of the total employee worker hours in each trade by bona fide Boston residents, 25% by minorities, and 10% by women.

Permanent Employment — 3,500

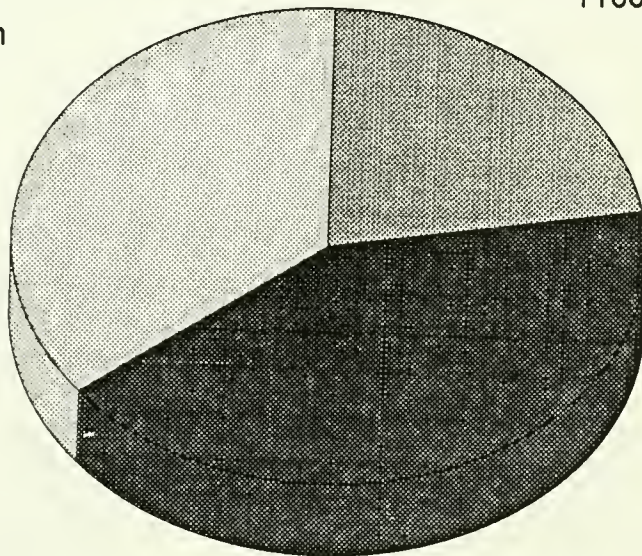
All developments will include an Employment Opportunity Plan requiring efforts to provide a minimum of the employment opportunities to be made available to Boston residents.

A First Source Agreement with the Mayor's Office for Jobs and Community Services will require employers to use the services of the "Boston for Boston" placement office sponsored by the Private Industry Council in recruiting permanent employees from Charlestown and other neighborhoods. A goal that 25% of the employees be Charlestown residents has been set.

Construction Jobs

1978-1989
36%
\$469 Million
2160 Jobs

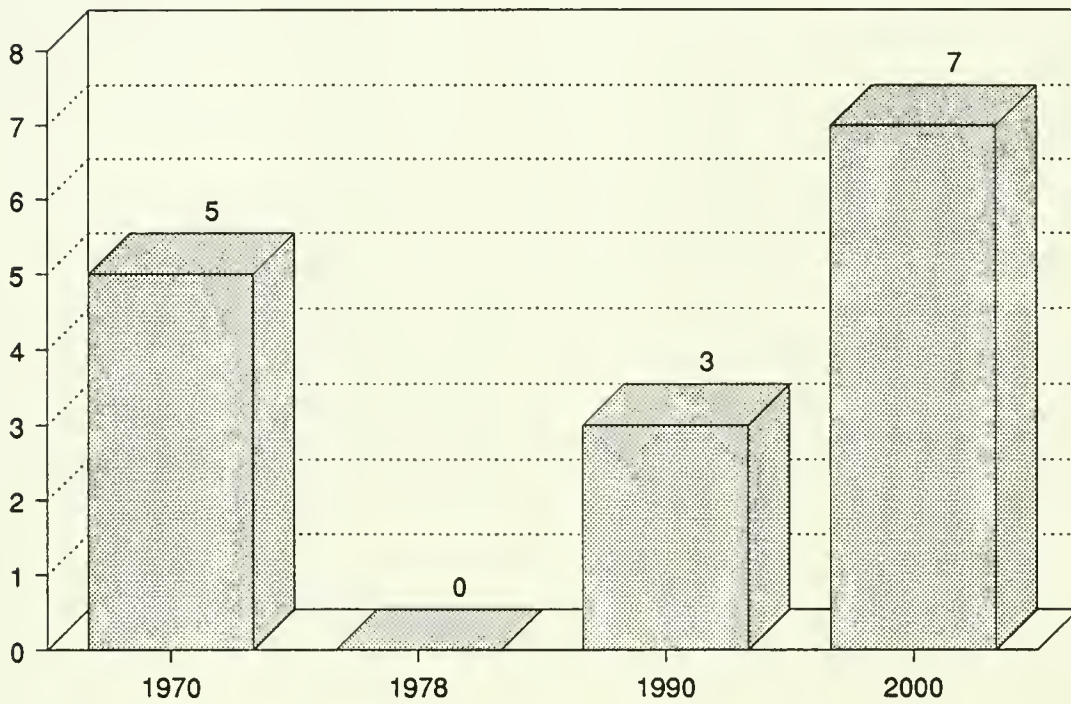
1995-2000
22%
\$308 Million
1100 Jobs



1990-1995
42%
\$523 Million
2300 Jobs

TOTAL INVESTMENT: \$1,300,000,000
TOTAL CONSTRUCTION JOBS: 5,560

Permanent Jobs



HOSPITAL RESEARCH EMPLOYMENT BY EDUCATION LEVEL AND OCCUPATION

	<i>Medical Research Employment</i>	<i>Percent Employed</i>	<i>Jobholder's with</i>		
			<i>Advanced Degree</i>	<i>Bachelor's Degree</i>	<i>High School or A.A.</i>
Research Scientists	2,090	34.5	1,973	117	0
Doctors	755	12.5	755	0	0
Laboratory Technicians	1,598	26.4	0	1,347	252
Computer Technicians	82	1.3	0	82	0
Administrative	331	5.5	3	309	18
Secretaries/Clerks	892	14.7	0	0	892
Janitorial	116	1.9	0	0	116
Other	187	3.1	0	6	181
Total	6,050	100%	2,732	1,860	1,458
Percent	100%	N/A	45.2%	30.8%	24.1%

Note: Employment is based on Full Time Equivalent Employment data provided by 12 hospitals and extrapolated to the total of 17.

Source: BRA Research Department, Medical Industry Survey, 1987.

Jobs Linkage —

Development will provide \$ 1,000,000 in funding to support job training programs for the rapidly evolving health care/biomedical/biotechnology industry and associated sectors of the economy. A job training center — to provide job training, counseling and referral so as to match the workforce to the high growth industries will be created.

Vocational Education

A Boston Health Careers Academy will serve a target population with the highest need for vocational training: high school students, dropouts, working parents, potentially displaced health care workers and unemployed teens and adults. The Academy will strive to establish close working ties between employers, unions, educational institutions, and vocational training providers.

In a collaboration with Bunker Hill Community College and the Conference of Boston Teaching Hospitals (COBTH), the City will promote the addition of Bunker Hill Community College to the COBTH as a provider of training programs for health care workers interested in shifting to high-demand, high-vacancy positions in the biomedical field.

The Biomedical Technology Training Program and the City will collaborate with the Bay State Skills Corp. in promoting a college level, degree granting training program for residents of Boston.

The establishment of the Biomedical/Biotechnology Occupational Endowment fund for the purchase of slots in accredited biomedical education programs for qualifying low- and moderate-income residents of Charlestown will also increase neighborhood residents' ability to gain jobs in the Navy Yard.

Additional Day Care Centers

Providers will be encouraged to establish a relationship with a local academic institutions in order to achieve the highest possible level of care as well as generate job training opportunities. A day care center opened in 1989 at Building 36, and further facilities are planned for Building 266 and the Yard's End.

Public Access / Open Space

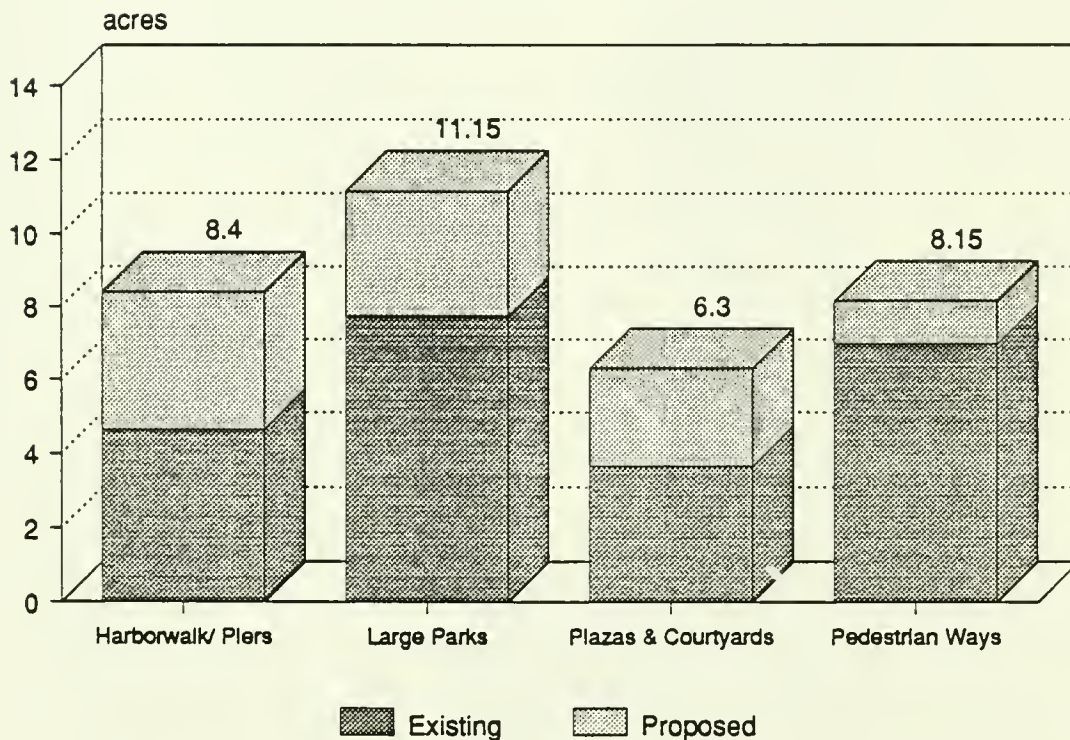
The Open Space Master Plan for the Navy Yard incorporates the original plan by Loammi Baldwin and Alexander Parris in 1828 and its later expansion and transformation in the late 19th and 20th centuries. This existing organization of streets, buildings and piers, as well as proposed new developments are integrated around a pedestrian circulation/access concept that will reconfigure the Yard without destroying its atmosphere. The larger vision of the Harborwalk system will connect the Navy Yard to both the harbor and downtown. In addition, several new pedestrian gateways will reinforce the existing auto entries as gateway connections to the Charlestown neighborhood. This open space reclamation plan will provide a unique physical resource adjacent to Charlestown and Boston Harbor.

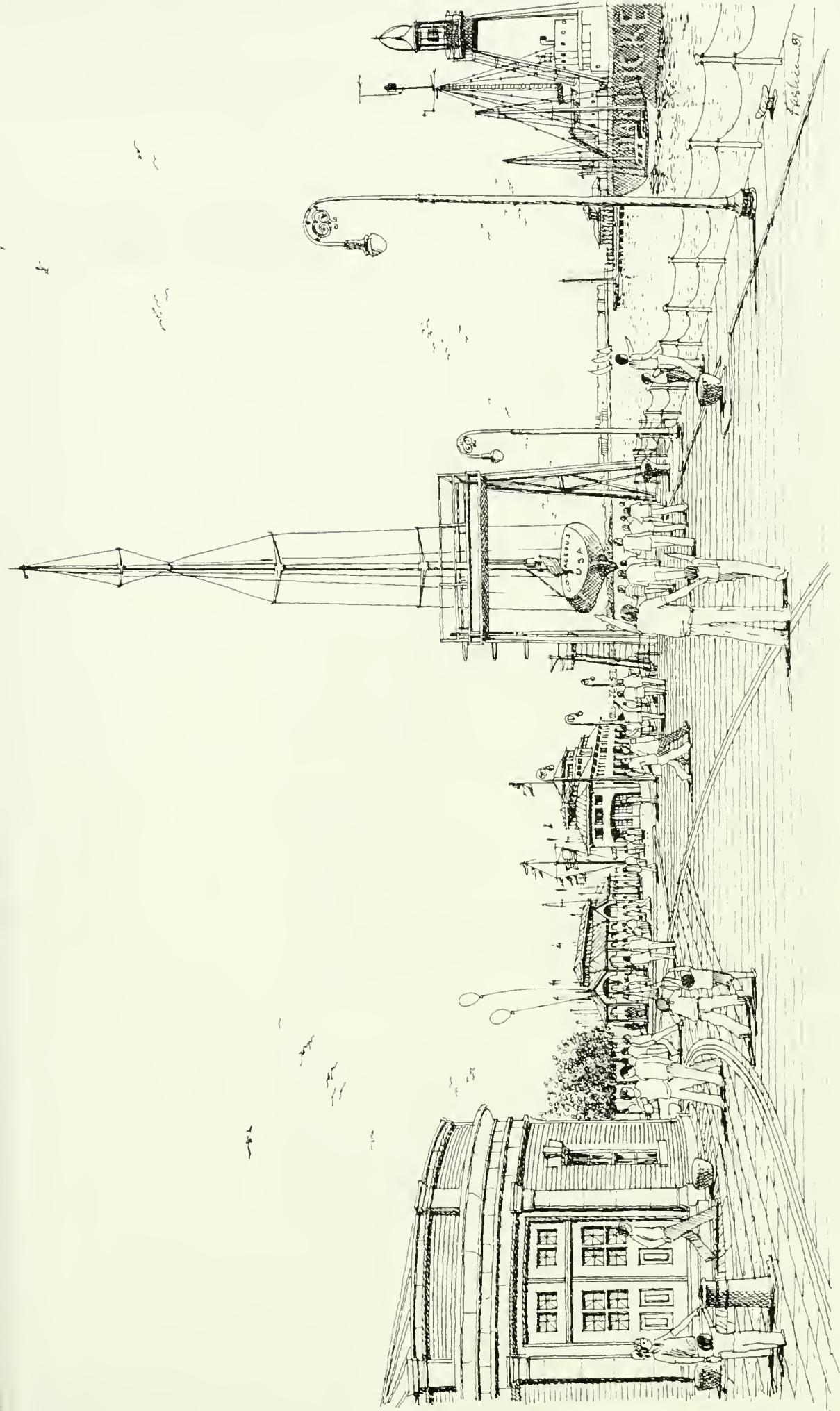
To reinforce the existing street grid and the view corridors to the harbor, in order to connect the major public open spaces, and to provide pedestrian connections to Charlestown, the major pedestrian corridors will be improved as follows:

- First Avenue will become the major auto and pedestrian spine.
- Second Avenue will become a pedestrian mall.
- Two major new open space/park spaces for the community will reinforce the open space activities of the adjacent National Park Service U.S.S. CONSTITUTION activities and the Freedom Trail.
- Shipyard Park includes Dry Dock #2 for water views and access to the water shuttle as well as an urban park, promenade and sitting area, in addition to a 13-acre park space on the site of the demolished building #195. Together these two elements afford various active and passive recreational activities (total: 15 1/2 acres). Finishing Shipyard Park will include \$750,000 worth of additional improvements -- money already committed to the improvements
- Yard's End Open Space will include the new Marina Park and the Aquarium plaza. These open spaces will reinforce the public activities planned around and in the new Aquarium facility (5 acres).
- Harborwalk a continuous pedestrian thoroughfare along Boston's waterfront, will be completed. Through the relocation of the new Aquarium to Dry Dock #5 and the provision for additional marina dockage at Pier 9, the Harborwalk within the Navy Yard will be almost 3 miles long. The proposed 43-mile long Harborwalk which will eventually extend as far south as the Neponset River in Dorchester.

- Gates 1, 2, 4, 5, and the proposed 6, will provide pedestrian access to the Harbor along Chelsea Street. This will include a direct connection from the Navy Yard to the Little Mystic Channel open space.
- Chelsea Street will become a tree-lined corridor. A variety of smaller public plazas and open spaces as well as the various gateways into the Navy Yard from Charlestown will provide a landscape connection between the Navy Yard and Charlestown.
- At least 50% of the piers and 50% of the total land area of the Navy Yard outside the Historic Monument Area will be open space. Within the residential areas, diverse open spaces programmed for active and passive uses will be provided. Garden spaces, sitting areas and play spaces will also be designed as landscape buffers between major transportation routes and smaller residential areas.

PUBLIC OPEN SPACE





Pier 4 Activities

Open Space Public Activities

Charlestown Navy Yard (in acres)

Open Space/Parks

1)	National Park Service Constitution Marshalling area	5.75
2)	Shipyards Park (including Dry Dock 2)	15.5
3)	Aquarium Plaza and Marina Park (proposed)	5.5

Comparisons

1)	Government Center Plaza	5.75
2)	Faneuil Hall, Quincy Market and Government Center	13.75
3)	A. Downtown Waterfront Park	4.75
	B. Bunker Hill Monument Square	4.25
	C. Barry Playground	5.72

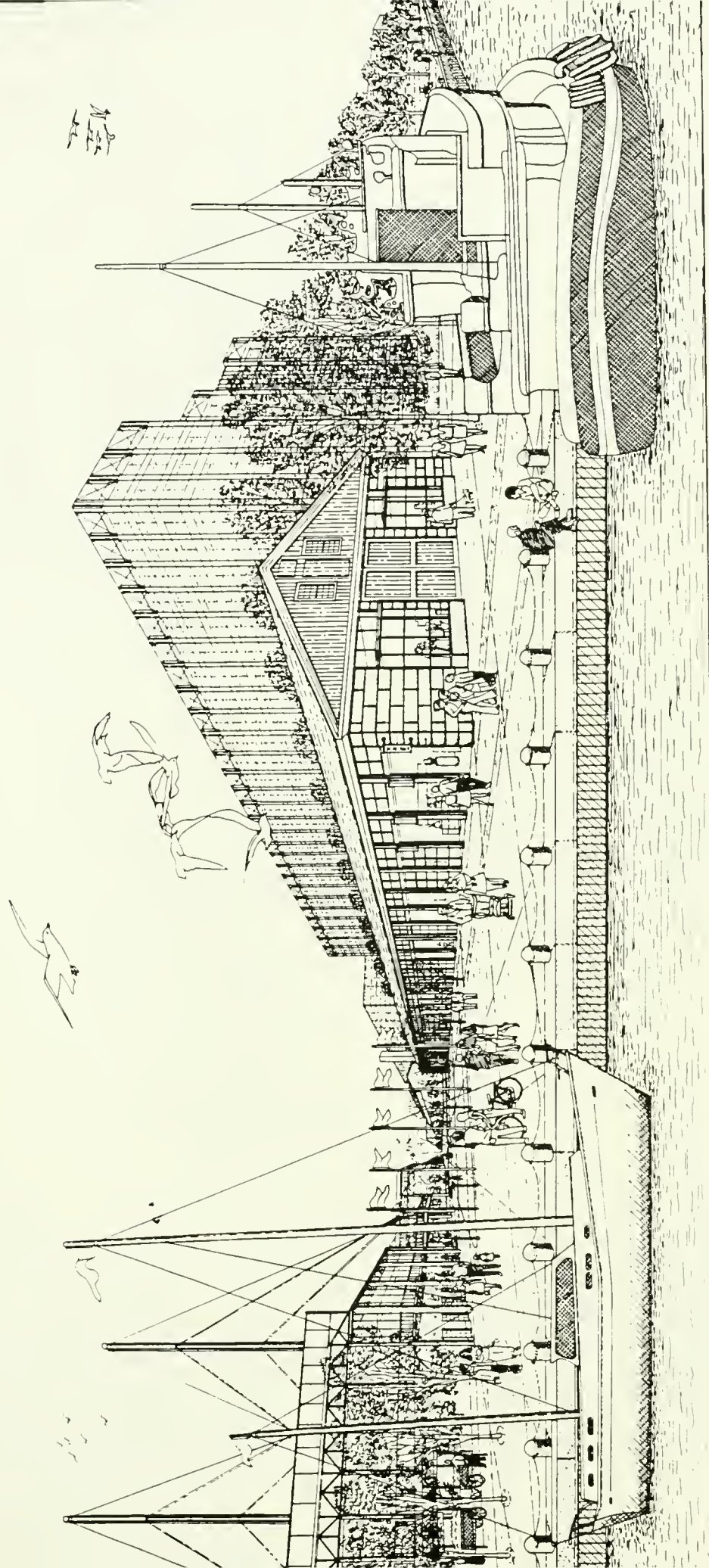
Linear Pedestrian Malls

Linear Feet

1)	First Avenue	4,100
2)	Chelsea Street	2,000
3)	2nd Avenue Pedestrian Mall	5,000
4)	Harborwalk	
	CNY (less Pier 9 and drydocks 2.75 miles)	14,375
	NPS and Tudor Wharf (1.00 mile)	6,055
5)	Flirtation Walk	1,650

Comparisons

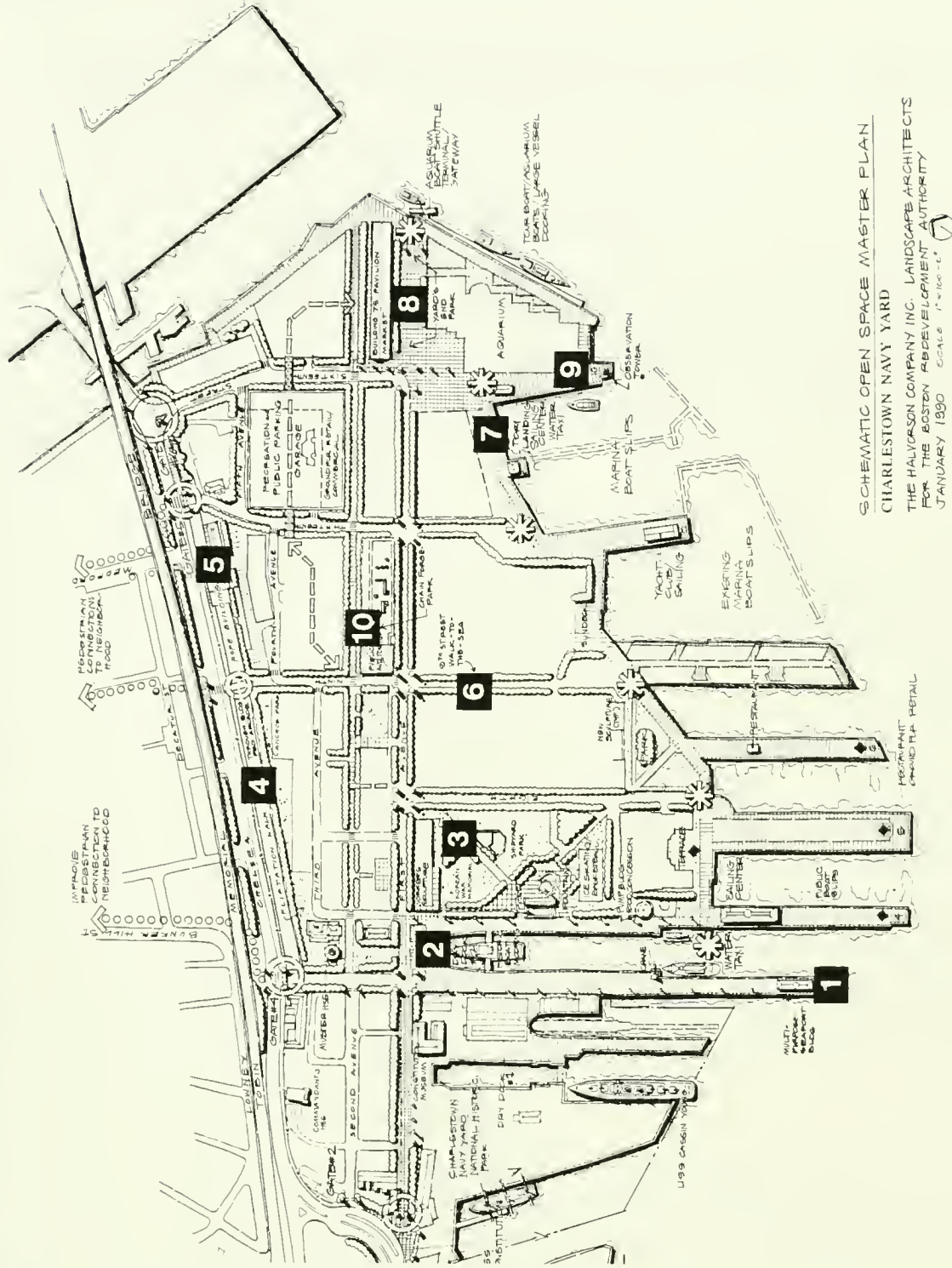
1)	Boylston Street Public Garden to Mass. Ave.	4,500
2)	Boylston Street Public Garden to Copley Square	3,000
3)	Downtown Crossing Pedestrian Mall	800
4)	Harborwalk Downtown Commercial Wharf to Rowes Wharf (water shuttle)	6,200
5)	Atlantic Avenue Waterfront Park to Rowes Wharf	1,500



Waterfront Open Space

OPEN SPACE IMPROVEMENTS

1. Pier 3 will be extended 800' to the 1880 pierhead line, its maximum permissible length, for public recreation, with short-term docking and shelter pavilions adaptable to community uses.
2. Dry Dock 2, at its head, will feature a sculpture of Navy Yard workers.
3. A Korean War Veterans Monument will be placed in Shipyard Park to commemorate the armed services commitment to democracy and South Korea.
4. Flirtation Walk will be restored with the replanting of an alley of hybrid elm trees to replace those which once graced this promenade.
5. New Pedestrian Gates will be opened through the Ropewalk building allowing direct connections between Hayes Square and the Harborwalk.
6. A New Sculpture at the end of 9th Street and a symbolic gateway in Anchor Park will establish a new "Walk-to-the-Sea", connected to the new pedestrian gate.
7. Tory Landing at the base of a reconstructed Pier 10, will provide direct water shuttle access to the Aquarium and a hotel on Parcel 4, while providing orientation.
8. Yard's End Park will be a major new open space with over 5 acres surrounding the Aquarium and a major new community marketplace pavilion.
9. Pier 10, reconstructed in conjunction with the Aquarium, will feature a major accessible observation tower at its end, with panoramic views of Boston and the Harbor.
10. Chain Forge Park will be created by the selective dismantling of Building 105's shed structure, allowing the fantastic masses of old chain forge presses to emerge as sculptural monuments to Charlestown's maritime industry in a new open space.



SCHEMATIC OPEN SPACE MASTER PLAN
CHARLESTOWN NAVY YARD
THE HALVORSON COMPANY INC. LANDSCAPE ARCHITECTS
FOR THE BOSTON REDEVELOPMENT AUTHORITY
JANUARY 1990 SCALE 1"=100'-0"

OPEN SPACE ELEMENTS FOR THE NAVY YARD

As the Charlestown Navy Yard becomes fully developed as a new waterfront community, a series of connected, yet diverse, public open spaces will complement the various activities of the proposed new Aquarium, as well as the residential and commercial developments. This public open space network will incorporate and reinforce the unique historical character of the Navy Yard and will combine it with the larger city-wide open space program of Harborwalk.

Harborwalk

The Harborwalk is a major goal of the Harborpark initiative encouraging continuous public access to the water's edge and waterside facilities. The Harborwalk promenade will connect the U.S.S. Constitution National Park area through Shipyard Park to individual piers and promenades. Harborwalk will traverse the Navy Yard's perimeter, with its terminus at the proposed Aquarium at Yard's End and will feature granite details, period light fixtures, benches, and seasonal plantings.

Harborwalk will also extend to Tudor Wharf at City Square and beyond to make a convenient and direct pedestrian walkway between the Charlestown neighborhood, the waterfront, and of the Freedom Trail.

Harborwalk presents opportunities for direct interaction with the water's edge and a variety of maritime activities, such as Shipyard Park, the water shuttle, marinas, sailing programs, public landings, glass pavilions, retail, office and residential uses in the Navy Yard. The experiences along Harborwalk will be diverse, yet all will adhere to Harborpark's objectives of public accessibility and attention to design detail.

Navy Yard Streetscape

The streetscape within the Navy Yard will be tree-lined with appropriately designed lighting, seating, and appropriate paving of brick and granite. The tree plantings that accent the streets will tie the large green open spaces together, providing a continuous green canopy throughout the Yard's public areas.

Navy Yard Courtyards

Development of a series of courtyards and plazas will create formal entries as well as activity areas for residential and commercial buildings, while adding a significant amount of the open space. Individually designed, these spaces will, through their diversity and attention to detail, create "outdoor rooms" of a particular character that will reflect the activities in the Navy Yard. All will contain fine paving materials, seating, lighting, and carefully selected plantings.

Anchor Park will be one of a string of open spaces and gardens which open off of Flirtation Walk and will recall the historic open storage court for Navy ship anchors which subsequently became a serendipitous parkspace.



Gate Five Park and the formal garden at Gate Four will be located at the ends of the Flirtation Walk. Gate Five Park is an urban space defined by five historic buildings with a granite plaza, rows of trees, a focus sculpture, and seasonal flowers. It becomes the forecourt for the Ropewalk Museum. Gate Four park includes the octagonal Muster House and is the ceremonial center of the Navy Yard as it looks out to the harbor across the Dry Dock #2 promenade.

Second Avenue will be a pedestrian mall and will serve as a focus for retail activity for the Yard. It will contain amenities like those at Faneuil Hall Marketplace with diverse seating components, annual plantings, trash receptacles and improved signage. The mall will be tree-lined, echoing its original appearance. Existing details of broad granite pavers, period benches, Bishop's Crook light standards and plantings will be continued, all in accordance with the Program of Preservation and Utilization.

To limit the use of automobiles throughout the Navy Yard, a two-loop auto access system will identify specific gates for entry in order to separate Aquarium and R&D medical traffic from local residential and commercial traffic, as well as reduce traffic impacts throughout the Navy Yard and adjacent Charlestown (see Transportation section).



Mayor Raymond L. Flynn on the Courageous

CNY OPEN SPACE - TIMELINE

Time Period	Harborwalk	Large Parks	Public Piers	Plazas and Courtyards	Major Pedestrian Ways
1978 - 1989				Bldg. 42(1)	Chelsea Street
				Bldg. 42(2)	
	Pier 8	Shipyards Park	Pier 4	Bldg. 266	Second Avenue Mall
	Pier 7		Pier 6	Bldg. 34	
	Pier 6		Pier 8	Bldg. 36	First Avenue
	Pier 4			Bldg. 197	
	Dry Dock 2			Bldg. 103	
1990 - 1995	Parcel 4	"Yard's End Park"		Parcel 7	9th Street and
	Parcel 5	(Parcels 4 & 5)			Pedestrian Gates
	Parcel 7				
	Pier 3				
1996 - 2000	Bldg. 114			"Anchor Park"	Flirtation Walk
	Parcel 6			Bldg. 114	
	Pier 5			Parcel 6	

CNY PUBLIC ACCESS/OPEN SPACE

MAJOR PEDESTRIAN WAYS

Pedestrian Way	L.F.	Miles	Sq. Ft.	Acres
1.First Avenue	4,100	.78	102,500	2.35
2.Second Avenue Mall	5,000	.95	150,000	3.44
3.Flirtation Walk	1,650	.31	49,500	1.14
4.Chelsea Street	2,050	.39	51,250	8.11
TOTAL	12,800	2.43	353,250	15.04

1.Includes both sides of First Avenue, at 25' width each side.

2.Includes both sides of Second Avenue, at 30' width each side (total width is 60').

3.Measured only once, at avenue 30' width.

4.Includes Navy Yard side of street only, at 25' width.

CHARLESTOWN NAVY YARD PUBLIC ACCESS/OPEN SPACE

HARBORWALK

Segment	Linear Feet			
	Completed	Under Construction	Planned	Total
Building 114	0	0	425	425
Yard's End	0	0	2,625	2,625
Pier 8	1,400	0	0	1,400
Pier 7	1,600	0	0	1,600
Pier 6	1,525	0	0	1,525
Pier 5	0	0	1,600	1,600
Pier 4	1,600	0	0	1,600
Dry Dock 2	1,700	0	0	1,700
Pier 3	0	0	1,900	1,900
Total Linear Feet			7,82506,55014,375	
Total Miles			1.4801.242.72	
Total Square Feet			*195,6250163,750359,375	
Total Acres			4.4903.768.25	

NOTE: Does not include the National Park Service Harborwalk (Piers 1 & 2, CNY) which is a total of 2,925 linear feet.

*Assuming a uniform average width of 25'.

CHARLESTOWN NAVY YARD MASTER PLAN - OPEN SPACE/BUILT SPACE

.....

TOTAL DEVELOPMENT AREA:	3,640,000 sq. ft. (excluding water)
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.....

ROADS:	256,000 sq. ft. (excluding 1st & 2nd Ave.)
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.....

NET BUILDABLE AREA:	3,384,000 sq. ft.
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TOTAL PUBLIC OPEN SPACE:	1,475,377 sq. ft. (excluding 1st & 2nd Ave.)
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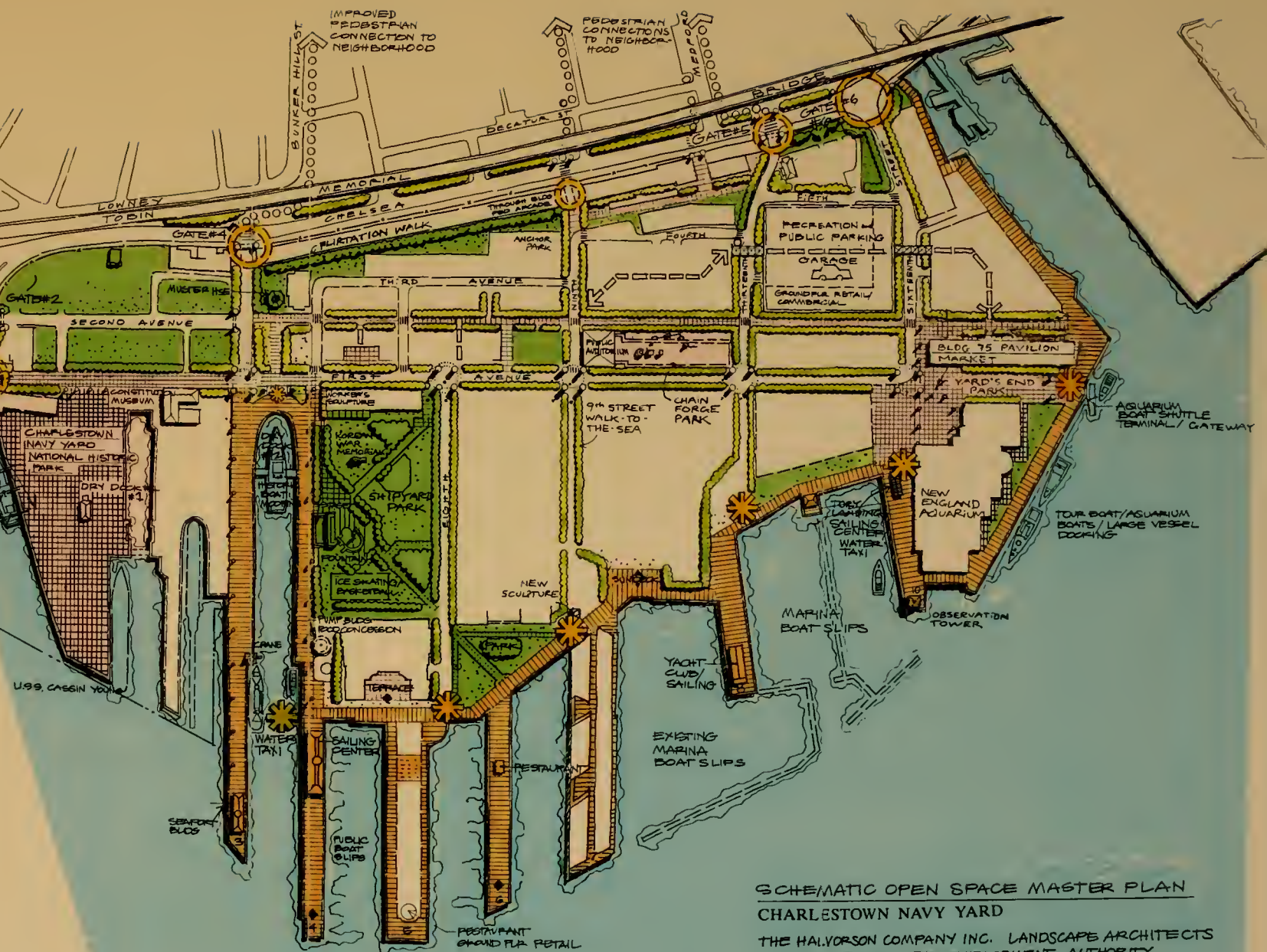
50 percent of net buildable area will be public open space (includes 1st and 2nd Avenue)

40.5 percent of total site area (land only) will be public open space

32.3 percent of total site area (land & water) will be public open space

LEGEND

-  MAJOR PEDESTRIAN CIRCULATION
STREET TREES/PEDESTRIAN LIGHTS/SPECIAL PAVEMENT
-  SPECIAL PAVEMENT DEFINING
PRIMARY PEDESTRIAN CIRCULATION
-  THROUGH BUILDING PEDESTRIAN CONNECTIONS
-  2ND STORY PEDESTRIAN SKYWALK
-  HARBORWALK PEDESTRIAN PROMENADE
ALONG WATERFRONT EDGE
-  MAJOR GATEWAYS INTO CHARLESTOWN
NAVY YARD (ARRIVAL POINTS)
-  MINOR GATEWAYS ALONG FIRST STREET
IDENTIFICATION/ORIENTATION NODES
SIGNAGE, MINOR ART ETC.
-  WATERVIEW GATEWAY
FOCAL POINT SCULPTURE AT MINOR
OPEN SPACE
-  POTENTIAL FOR ACTIVITY GENERATORS
ALONG WATERFRONT PROMENADE
-  MAJOR GREEN OPEN SPACE, PASSIVE AND
ACTIVE RECREATION/PROGRAMMED ACTIVITIES
-  MINOR OPEN SPACE
-  URBAN PLAZA, PAVED OPEN SPACE



SCHEMATIC OPEN SPACE MASTER PLAN CHARLESTOWN NAVY YARD

THE HALVORSON COMPANY INC. LANDSCAPE ARCHITECTS
FOR: THE BOSTON REDEVELOPMENT AUTHORITY
JANUARY 1990

Transportation

As improvements to the Navy Yard are completed, more people will take advantage of the opportunity to work, live, and enjoy recreation at the Yard. Providing people with convenient access to and from the Navy Yard, with a minimum of disturbance to the surrounding neighborhoods, is the subject of a comprehensive Transportation Plan that has developed for the Yard. This plan has seven key elements:

1. Capacity Improvements to Regional Street Network

- Proposed creation of a new Medford Street Bypass or "haul road", connecting the Navy Yard to Sullivan Square, Route 99 and Route 93, via the Little Mystic Bridge, Terminal Street, adjacent to existing railroad right-of-ways. This road would be used primarily by truck traffic, tour buses, and school buses and would divert such traffic from City Square and Medford Street.
- Restoration of Chelsea Street to four lanes between City Square and the Navy Yard as part of the Central Artery North Area (CANA) improvements.
- Proposed intersection improvements to City Square now being studied by the Boston Transportation Department and the Massachusetts Department of Public Works.
- The placement of a new traffic signal at the intersection of Chelsea Street and Medford Street, to be coordinated with the signal at Gate 5 and the signal at Gate 6 if the latter is constructed.

2. Improvements to Navy Yard Access and Circulation

- The creation a new Gate 6, or widening of Gate 5 to provide improved access to the eastern end of the yard. The Program of Preservation and Utilization for the Navy Yard, adopted in 1978, provides for a widened Gate 5. Today, a new Gate 6 is an alternative which could minimize adverse impacts on historic resources (especially the Ropewalk) while providing a superior urban design and transportation planning solution.
- The creation of a "two loop" circulation system within the Navy Yard. This will help separate higher traffic levels serving the proposed aquarium, hotel, and research space at the northeastern end of the Navy Yard from lower density recreational, residential and office areas at the southwestern end of the Navy Yard.

3. Water Shuttle Service

- The creation of a new water shuttle docking facility serving the aquarium and other buildings at Yard's End.

BOSTON INNER HARBOR WATER TRANSPORTATION STUDY

PROPOSED NETWORKS

2010 PEAK

O - Terminal Site

- Berthing / Service

ROUTES :

1. Rows - Logan
2. North Station - Fan Pier - World Trade
3. Pier 4 (CNY) - Long - Russia
4. North Station - Pier 4 (CNY) - Pier 11 (CNY) - Logan
5. Pier 11 (CNY) - Russia
6. Aquarium - Central Wharf (summer only)

Key Terminal Site

DOWNTOWN :

- 1 Long Wharf
- 2 Central Wharf
- 3 Rowes Wharf
- 4 Northern Avenue Bridge
- 5 Russia Wharf
- 6 North Station
- 7 Fan Pier / Pier 4
- 8 World Trade Center
- 9 Pier 7

SOUTH BOSTON :

- 10 Pier 1 / Constitution Wharf
- 11 Pier 4
- 12 Pier 11

CHARLESTOWN :

- 13 Eagle Street
- 14 East Boston Piers
- 15 Boston Marine
- 16 Logan South

EAST BOSTON :

- 13 Eagle Street
- 14 East Boston Piers
- 15 Boston Marine
- 16 Logan South

TAMS Consultants Inc.
38 Chauncy St
Boston, MA 02111



-
- The use of a high capacity (approximately 150 person) water shuttle serving the aquarium during the summer months, with departures every 15 minutes.
 - The continuation of existing water shuttle service to Pier 4.

4. Bus Shuttle Service

- The establishment of bus shuttle service between the Navy Yard and MBTA subway and commuter rail lines with departures every five minutes during weekday morning and evening rush hours.
- The establishment of a bus or tram shuttle service carrying visitors between the U.S.S. Constitution and the new aquarium via First Avenue.
- The establishment of bus shuttle service between the new aquarium and a satellite parking lot nearby across the Little Mystic Channel.

5. Pedestrian Access

- The creation of a pedestrian-only gate between Gates 4 and 5 to provide Charlestown residents with convenient pedestrian access to the Yard, separated from vehicular traffic.
- Continued streetscape improvements to Navy Yard streets and Chelsea Street to make walking more enjoyable.
- The encouragement of more retail, restaurant, and recreational uses to get more people on the streets.

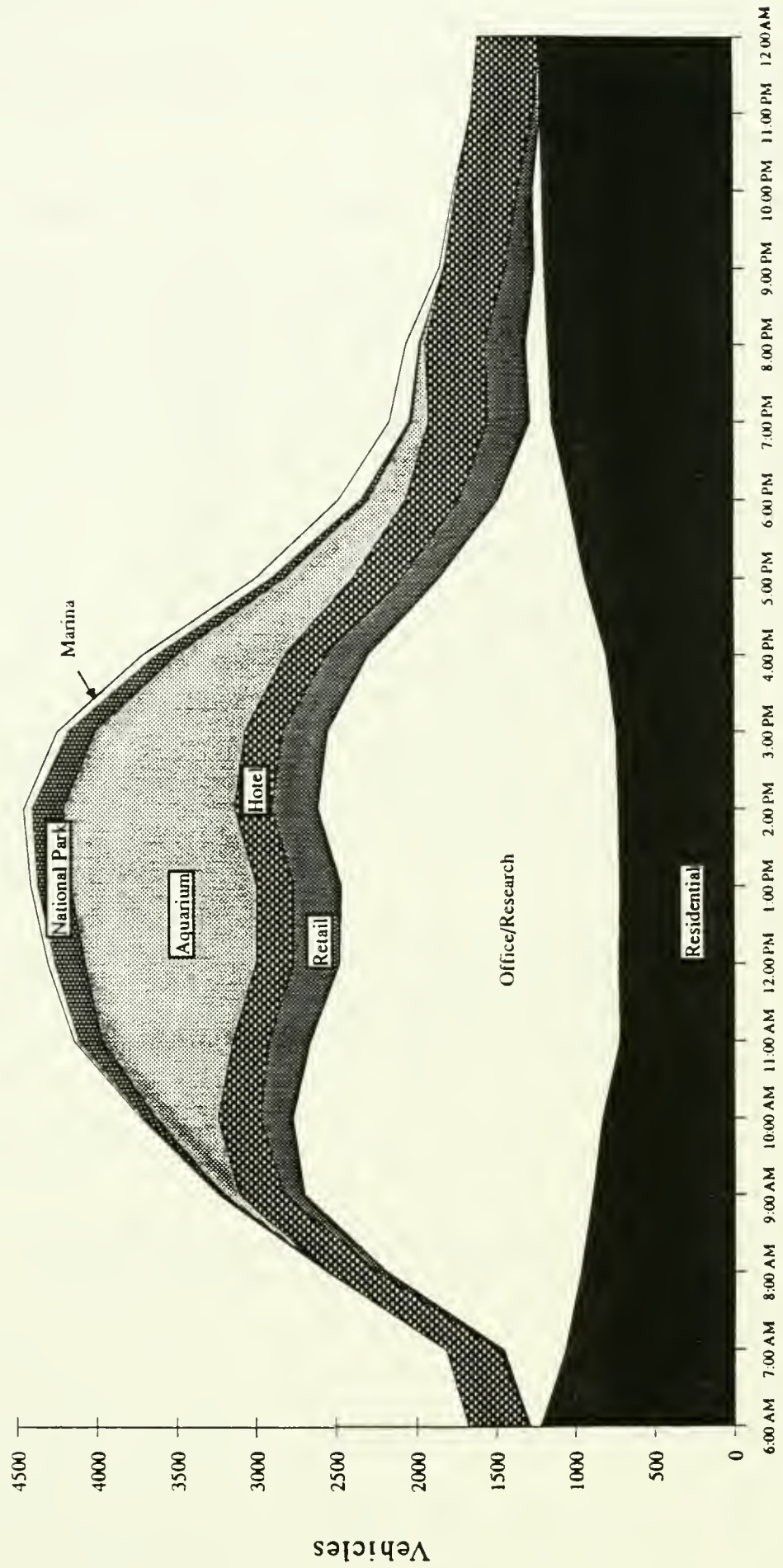
6. Parking

- The construction of 1,495 new parking spaces, including a 1,100-space garage and 395 additional parking spaces on the hotel and research building sites. Additional parking will be developed on-site in the Special Study area.
- The implementation of state-of-the-art shared parking arrangements, allowing optimum utilization of parking spaces.
- The construction of a satellite parking facility across the Little Mystic Channel for tour buses and cars.

7. Transportation Management

- The creation of a Transportation Management Association (TMA) among government agencies and building owners and developers to support programs designed to reduce single-passenger car use by tenants and employees. Through active management by a paid full-time Transportation Coordinator, the following proven programs would be implemented: subsidies for transit use, ridesharing and van pools, flexible work hours, and monitoring to assure that such programs are effective in reducing traffic improvements.

Charlestown Navy Yard Weekday Parking Accumulation August 1995



Time of Day

Projected Traffic Levels and Parking Demand

The transportation and parking needs associated with proposed new development at the Navy Yard have been analyzed by transportation consultants (TAMS Consultants, Inc.) in light of the Transportation Plan outlined above,¹ and are within the levels planned for in the original 1978 environmental approvals for the Navy Yard. The TAMS report describes in detail anticipated traffic levels and parking demand resulting from the greater use of Navy Yard facilities that will result from the improvements described in this Master Plan. Their conclusions, for the years 1995 and 2000, are that adequate levels of service can be maintained at all affected intersections and routes significantly affected by Navy Yard improvements. City Square remains the most congested intersection, but with intersection improvements proposed by the consulting firm of Vanasse Hangen Brustlin and now being studied by the Boston Transportation Department, the report concludes that average rush hour delays can be held to under forty seconds, with one turn requiring an average of forty to sixty seconds. At times other than rush hour, City Square service is projected to be substantially better. Also, service at other affected intersections, even at rush hour, is projected to be good. For example, with the proposed new Gate 6, average rush hour delays at each of the Navy Yard entrance points in the year 2000 are projected to be under ten seconds.

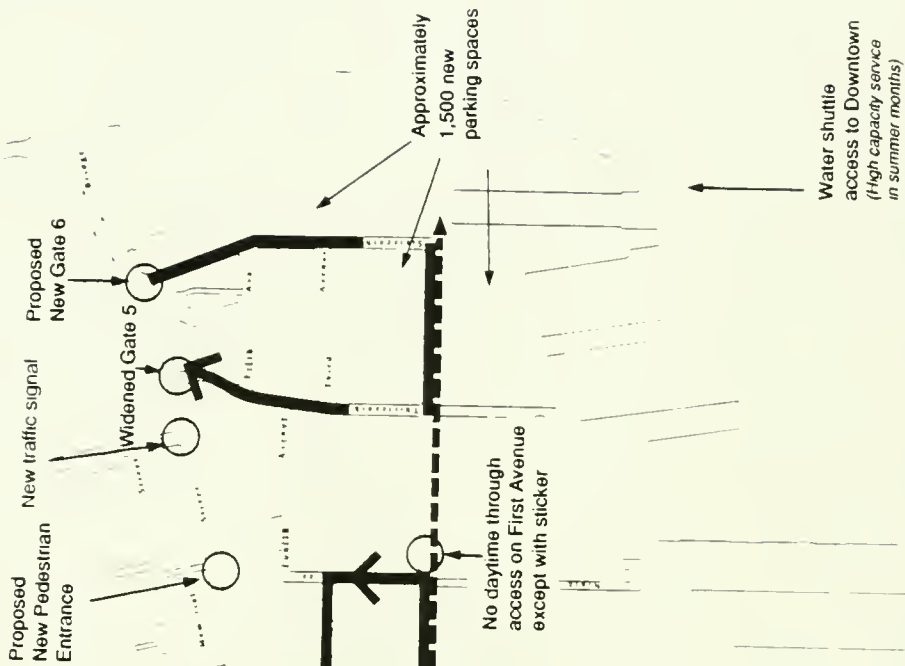
The report also projects parking demand as a result of proposed Navy Yard improvements. The report concludes that parking demand can be met with existing and new parking proposed as part of the Master Plan. The Plan calls for the use of off-site parking facilities in the vicinity of the Navy Yard to meet overflow demand projected to occur on certain summer weekdays.

The TAMS report is available for review at the Boston Redevelopment Authority

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- 1. "Transportation Impact Analysis--Charlestown Navy Yard Master Plan," TAMS Consultants, Inc., February 1990 (62 pp.).

Proposed
New Haul Road
to Sullivan Square

Satellite parking
for tour buses



Shuttle bus service
to subways
and commuter rail

Proposed
Improvements
to City Square

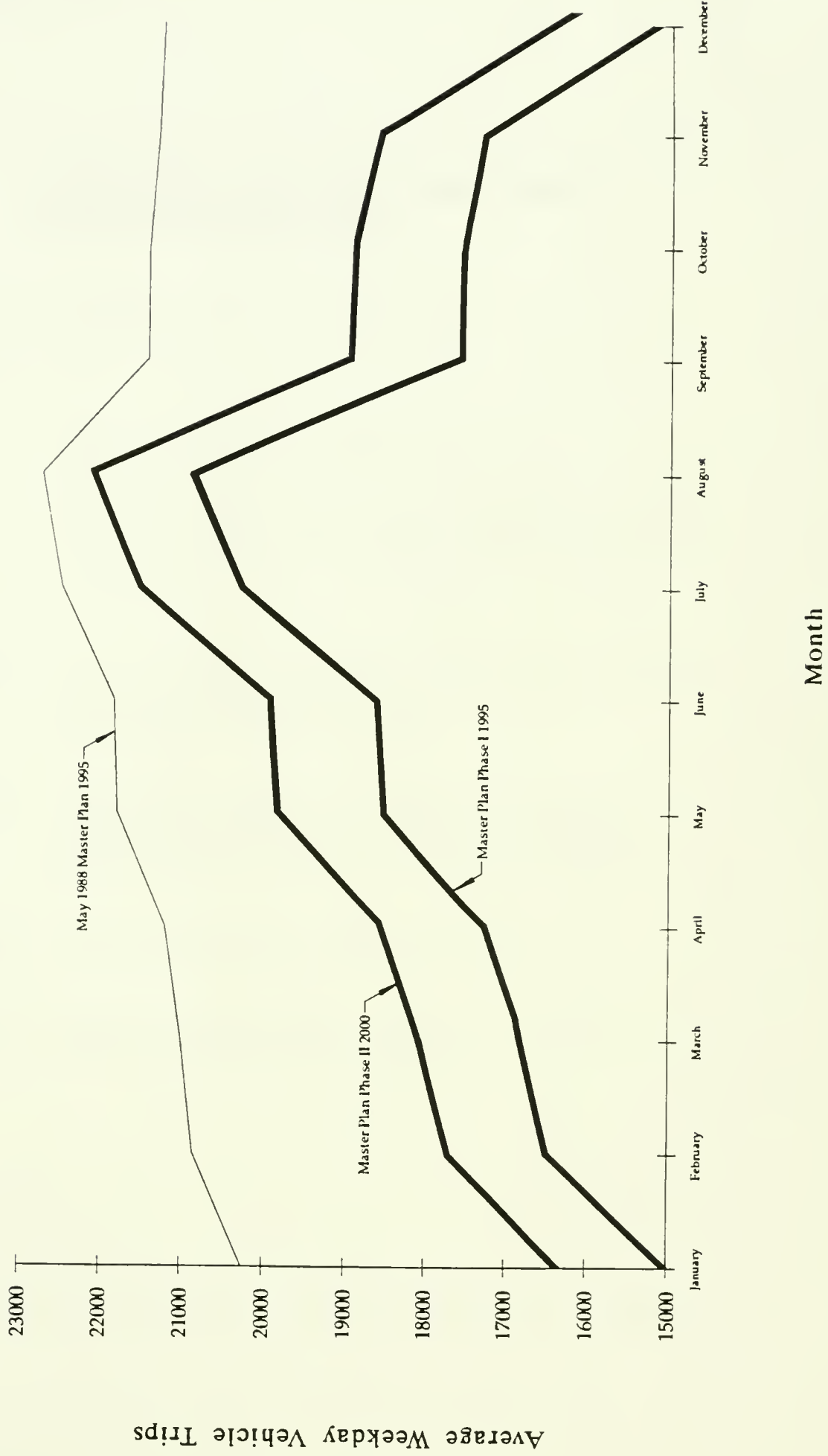
CANA Improvements,
including restoration
to four lanes

Existing Gate 4

Water shuttle
access to Downtown

Charlestown Navy Yard

MONTHLY VARIATION IN AVERAGE WEEKDAY VEHICLE TRIPS



MEDFORD STREET BYPASS ROAD -- THE NEW HAUL ROAD

Community Benefits and Planning Objectives:

- 1** Divert truck, bus, and through traffic away from Medford Street onto a new bypass road.

Connect the Navy yard via the Little Mystic Bridge, Terminal Street and the new Bypass Road to Sullivan Square and Route 99, and to Route 93 and MBTA satellite parking lots to the north.
 - 2** Reconfigure Medford Street as a "neighborhood" street and thereby improve the quality of the environment for residences abutting Medford Street.
 - 3** Create an opportunity for a landscaped buffer zone between the industrial waterfront sites north of Medford Street and the residences south of Medford Street.
 - 4** Provide a bypass route avoiding City Square.
 - 5** Relocate access for industrial sites now accessible from Medford Street to new Bypass Road.
-

Charlestown Navy Yard/New England Aquarium

OPTION #1 WITHOUT GATE 6

	Level of Service 1995		Level of Service 2000	
	<u>AM</u>	<u>PM</u>	<u>AM</u>	<u>PM</u>
Gate 4	B	B	B	B
Medford St./ Chelsea St.	B	B	B	B
Gate 5	B	B	B	B
Gate 6	-	-	-	-
City Square (with Vanasse Hangen Brustlin design)	D*	D*	D*	D*

OPTION #2 WITH GATE 6

Gate 4	B	B	B	B
Medford St./ Chelsea St.	B	B	B	B
Gate 5	A	A	A	B
Gate 6	B	B	B	B
City Square (with Vanasse Hangen Brustlin design)	D*	D*	D*	D*

* Indicates that at least one movement in the intersection has a level of service equal to E

Housing

In 1984 the Flynn Administration created a goal of 25% "affordability" for all housing created in the Navy Yard. This housing development policy looks to a mixed-income ownership model to provide opportunities for Charlestown residents to live in the rebuilt Navy Yard.

As a result of this policy, 171 affordable housing units were created in the Navy Yard, out of a total additional buildout of 366 units, achieving a 46.7% affordability ratio during this period. This buildout included 112 elderly units in Building 103, 9 elderly and 83 rental units in Building 106, and 50 affordable homeownership units at Parcel 4, a site originally slated for market rate housing. The overall result of this housing development in the Navy Yard has resulted in a total of 562 market units completed, with 208 more units in the pipeline for a total of 770 market units, and 171 affordable units, completed. The development is also balanced between ownership and rental units with 562 rental units and 379 condo units.

Outside of the Navy Yard, 434 housing units were built on BRA land in Charlestown between 1984 and 1989. Of these units, 176, or more than 40%, are affordable to low and moderate income families. Of these units, 48 are ownership and 128 are rental.



Main Street Townhouses (Jan Van Horne)

CHARLESTOWN PROPER 1984-1990

Name of Unit	No. of Units	Number of Market		Number of Affordable		Type of Unit	Parcel #
		Homeownership	Rental	Rental	Homeownership		
Allston St.	3	3	0	0	0	Condos	R-77
Sullivan St.	1	1	0	0	0	Single-Family	R-48-1-B
Medford St.	1	1	0	0	0	Single-family	R-5-B
Warren, Winthrop & Park	120	0	0	120	0	Elderly rental	P-12-B
Park St.	1	1	0	0	0	Single-Family	R-17-F
Park St.	1	1	0	0	0	Single-Family	R-17-G
High St.	12	6	0	0	6	Condos	R-96
Old Rutherford	1	1	0	0	0	Single-Family	R-18-A
Washington St.	1	1	0	0	0	Single-Family	R-104
Washington St.	1	1	0	0	0	Single-Family	R-59-B-1
Main St.	1	1	0	0	0	Single-Family	R-56-E
Main St.	61	60	0	0	1	Condos	R-31-A
							R-102
							R-103
Main St.	80	80	0	0	0	Condos	P-16
Cook St.	1	1	0	0	0	Single-Family	R-12-D
Old Rutherford	3	1	2	0	0	3-Family	R-59-D-3
Bartlett St.	1	1	0	0	0	1-Family	N/A
Mead St.	2	1	1	0	0	2-Family	R-108
Medford St.	1	1	0	0	0	Single-Family	R-10-A-2
Main & Devens	23	0	23	0	0	Condos	R-56-A
Chappie St.	1	1	0	0	0	Single-Family	R-6-A
Sullivan St.	3	1	2	0	0	3-Family	X-24
Main St.	32	19	0	0	13	Condos	C-2A-1
Old Rutherford	2	1	1	0	0	2-Family	R-59-D-2
Belmont St.	1	1	0	0	0	Single-Family	R-23-B
Old Rutherford	2	1	1	0	0	2-Family	R-59-C
Main St.	12	12	0	0	0	Condos	R-68
Tremont St.	1	1	0	0	0	Single-Family	R-36
Bunker Hill & Main St.	42	20	0	0	22	Condos	P-2-A
Tremont & Prospect Sts.	8	0	0	8	0	Chapter 689 Handicapped Housing	R-87-A
Main St.	12	6	0	0	6	Condos	R-107
Belmont St.	3	1	2	0	0	3-Family	R-10-B
TOTAL	434	226	32	128	48		

Charlestown Proper Totals:

Market Homeownership:	226	Affordable Rental:	128		
Market Rental:	32	Affordable Homeownership:	48		
Market Units:	258	Affordable Units:	176	Total Units:	434

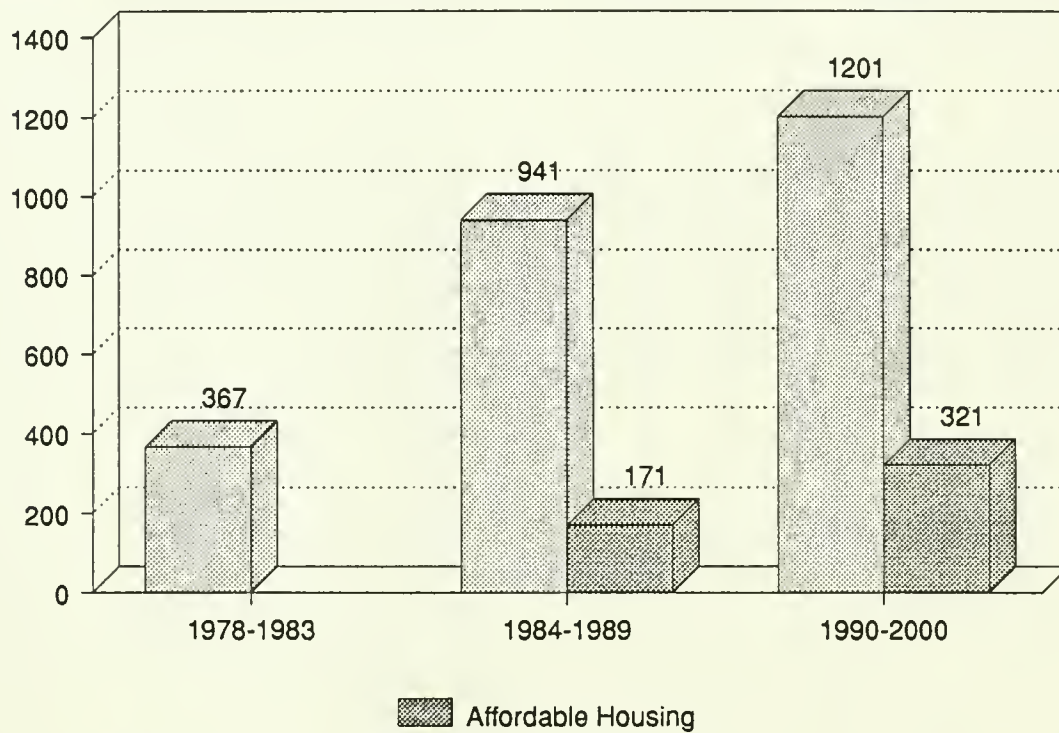
Future Housing Development

The first new housing development of the 1990s will be ⁴¹24 affordable houses at Building 104, to be constructed by the Bricklayers and Laborers Non-Profit Housing Corporation. Future housing development will produce 110 more market units on Pier 5 and a minimum of 100 more affordable units within the Housing Special Study Area which includes Buildings 40A, 39A, 150, and 108. There is capacity to produce not only affordable units, but also more open space, and a potential 200-unit elderly life-care facility. Upon completion this buildout will result in 25% of the Navy Yard housing affordable to low and moderate income families.

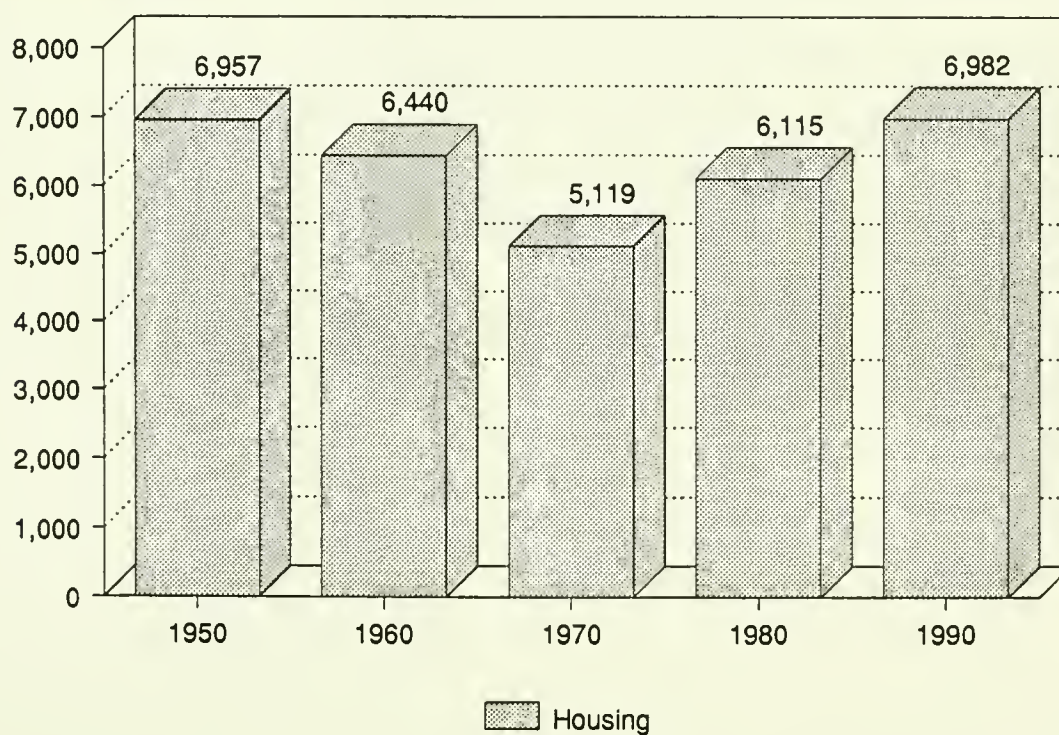
Upon completion of Navy Yard housing development, the housing count in Charlestown will finally surpass the high water mark of housing units which existed in the 1950s before the loss of housing during the 1960s and 1970s. The partnership between the neighborhood and City Hall has successfully produced a major housing initiative for Charlestown citizens, in the face of declining resources for housing production.

CHARLESTOWN HOUSING UNITS

Charlestown Navy Yard Housing



Charlestown Housing



	In Navy Yard	Outside Navy Yard
Completed or under Construction	941/171 Affordable	434/176 Affordable
Future	260/150 Affordable	58/30 Affordable

Linkage

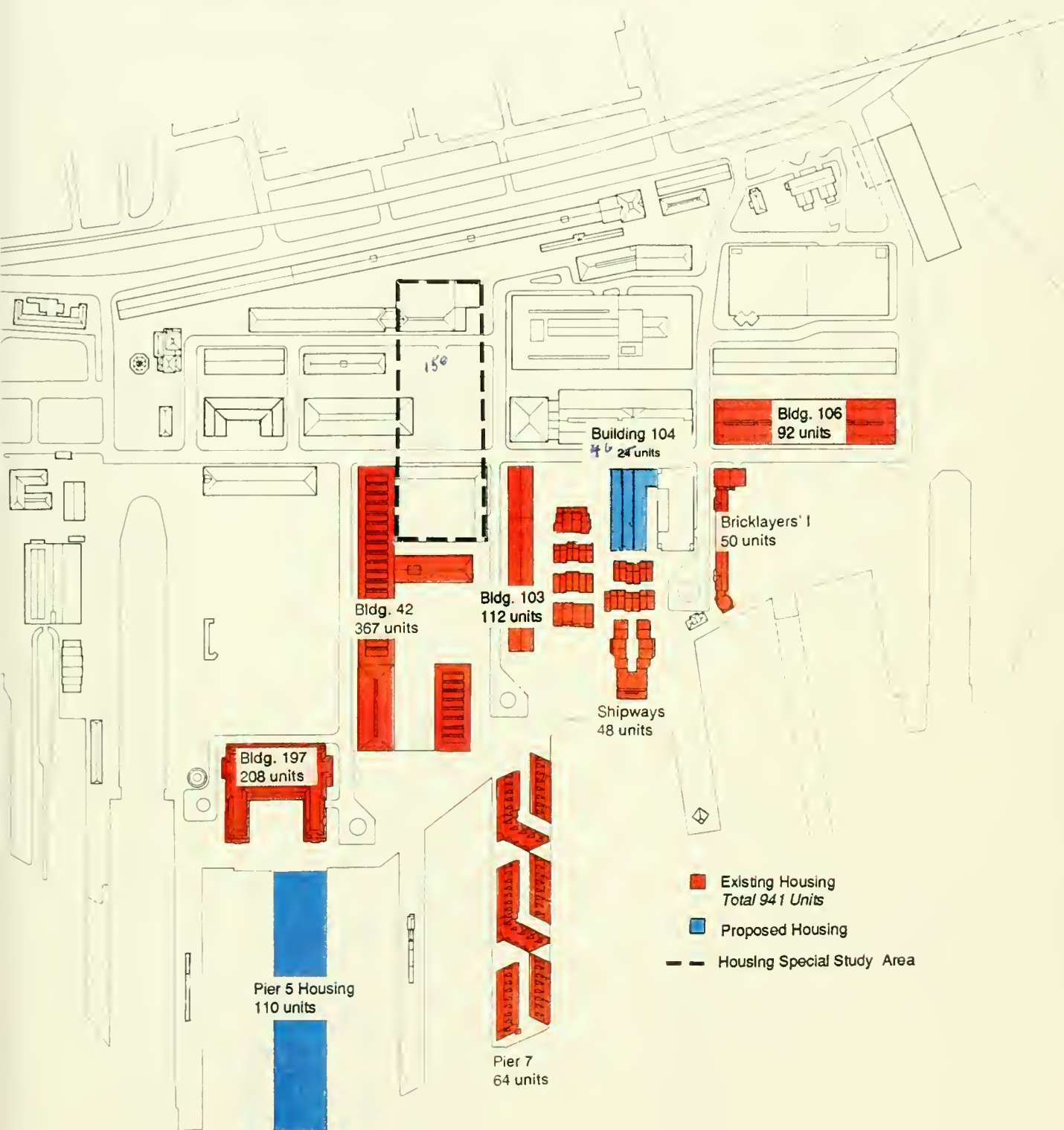
In addition to BRA land, funds, and technical contributions to housing development in Charlestown, private developers have also contributed to affordable housing production. Building 149's linkage commitment provided \$341,986 to the Main Street Townhouse project, and \$650,000 to the Parcel P-2 housing project directly across the street. Another \$651,446 from this commitment has been set aside for other Charlestown housing developments. New development at Yard's End will contribute more than \$6 million in housing linkage.

Downtown linkage contributions as well as other non-linkage dollars have also facilitated housing development in Charlestown. For instance, \$79,000 additional linkage funds went to the Main Street townhouses project, and a \$866,984 non-linkage contribution from Building 197 went to the Bricklayer's and Laborers Union Navy Yard rowhouses which also received \$1,176,000 from other public and private sources.

Private developer contributions have not been limited to housing development. The Charlestown Community Fund has received pledges of \$442,341 for the benefit of non-housing projects in Charlestown. To date, \$120,000 in grants has been given to deserving projects.

Upon completion of Navy Yard housing development, the housing count in Charlestown will finally surpass the high water mark of housing units which existed in the 1950s before the loss of housing during the 1960s and 1970s. The partnership between the neighborhood and City Hall has successfully produced a major housing initiative for Charlestown citizens, in the face of declining resources for housing production.

Charlestown Navy Yard Housing





<u>Name of Unit</u>	<u># of Units</u>	<u># of Market Homeownership</u>	<u># of Market Rental</u>	<u># of Affordable Rental</u>	<u># of Affordable Homeownership</u>	<u>Type of Unit</u>	<u>Parcel #</u>
1. Basilica/First Avenue	92	0	83	9	0	9 Elderly 83 Rental	Bldg. 106
2. Bricklayers 1	50	0	0	0	50	Condos	Parcel 4A
3. Ninth Street	112	0	0	112	0	Elderly Rental	Bldg. 103 Anchorage Apts.
4. First Avenue	48	46	0	0	0	Condos	Shipways
5. Pier 7	64	64	0	0	0	Condos	Parcel 33
6. Eighth Street	<u>208</u>	<u>208</u>	<u>0</u>	<u>0</u>	<u>0</u>	Condos	Parcel 1A/ Bldg. 197
	574	320	83	121	50		

CNY

Total Market Rental	- 83	Total Affordable Rental	- 121
Total Market Ownership	- 320	Total Affordable Homeownership	- 50
Total Market Units	- 403	Total Affordable Units	- 171

TOTAL UNITS - 574

Historic Preservation

The Navy Yard's rich past exists today in the many historic buildings in the Historic Monument Area. However, many of the Navy Yard's most important historic buildings, such as the Ropewalk and Building 105, are in poor condition and need to be preserved. While 14 of the 21 buildings in the Historic Monument Area have been or are being rehabilitated, the plan calls for the reuse or preservation of the remaining historic buildings between the years 1990-2000.

When completed, the Navy Yard's return to prominence will have been guided by the Program of Preservation and Utilization established in 1978.

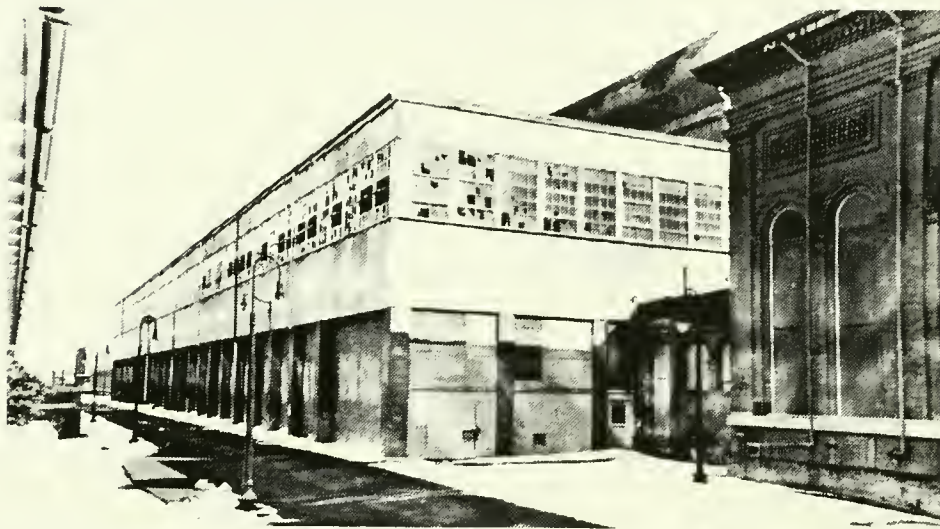
The legacy of such important Boston architects as Alexander Parris and Joseph Billings is evident in the craftsmanship, aesthetic values, and ingenuity in the Navy Yard's buildings, streets, and parks. Their work is part of the public realm which Charlestown and Boston residents now enjoy. Their legacy provides Charlestown with ties to its past, special identity, and a valuable resource.



Building 38 - 1921 (Bostonian Society)

The Navy Yard today combines urban features from 190 years of history, development, and change. Its evolution from a naval ship yard to its current mix of uses has been undertaken with the goal of maintaining the continuity in its form. The building stock is a resource, investment in manpower, energy, materials and craftsmanship inherited from the past. In the past five years significant investment has been made to rehabilitated structures restoring millions of square feet of space while creating thousands of construction and permanent jobs.

The Master Plan will further preserve the historic character of the Navy Yard by protecting the blocks, historic buildings, and street patterns; steering major development to Yard's End, which is mostly vacant; limiting building heights in the Historic Monument Area; and promoting renovation of the remaining historic buildings.



Building 105



Historic Monument Area

The Program of Preservation and Utilization governs the rehabilitation of buildings in the Historic Monument Area. These guidelines require that reuse of the buildings proceed under review by preservation authorities to ensure that their integrity is maintained. The plan implements guidelines to:

- Limit the height of new buildings;
- Steer major new construction to Yard's End, which has few historic buildings; and
- Require design review of new buildings to ensure their compatibility with the Navy Yard's historic buildings, and with the Program of Preservation and Utilization.

The only change in the original Program of Preservation and Utilization contemplated in the new Master Plan is the proposed Gate 6. A widened Gate 5 was provided for in the Program of Preservation and Utilization, but a new Gate 6 may minimize the adverse affects otherwise associated with widening 5, next to the Ropewalk complex.

The Historic Monument Transfer Area is 31 acres of the Navy Yard that contains a concentration of historic structures which have been and are being refitted for commercial, retail and housing uses. Streets and pedestrian areas reflect the 19th century history of the Navy Yard and create an attractive and historically appropriate environment throughout. The design guidelines for the area have received national recognition. Some of the buildings that have been rehabilitated or are planned for redevelopment include:

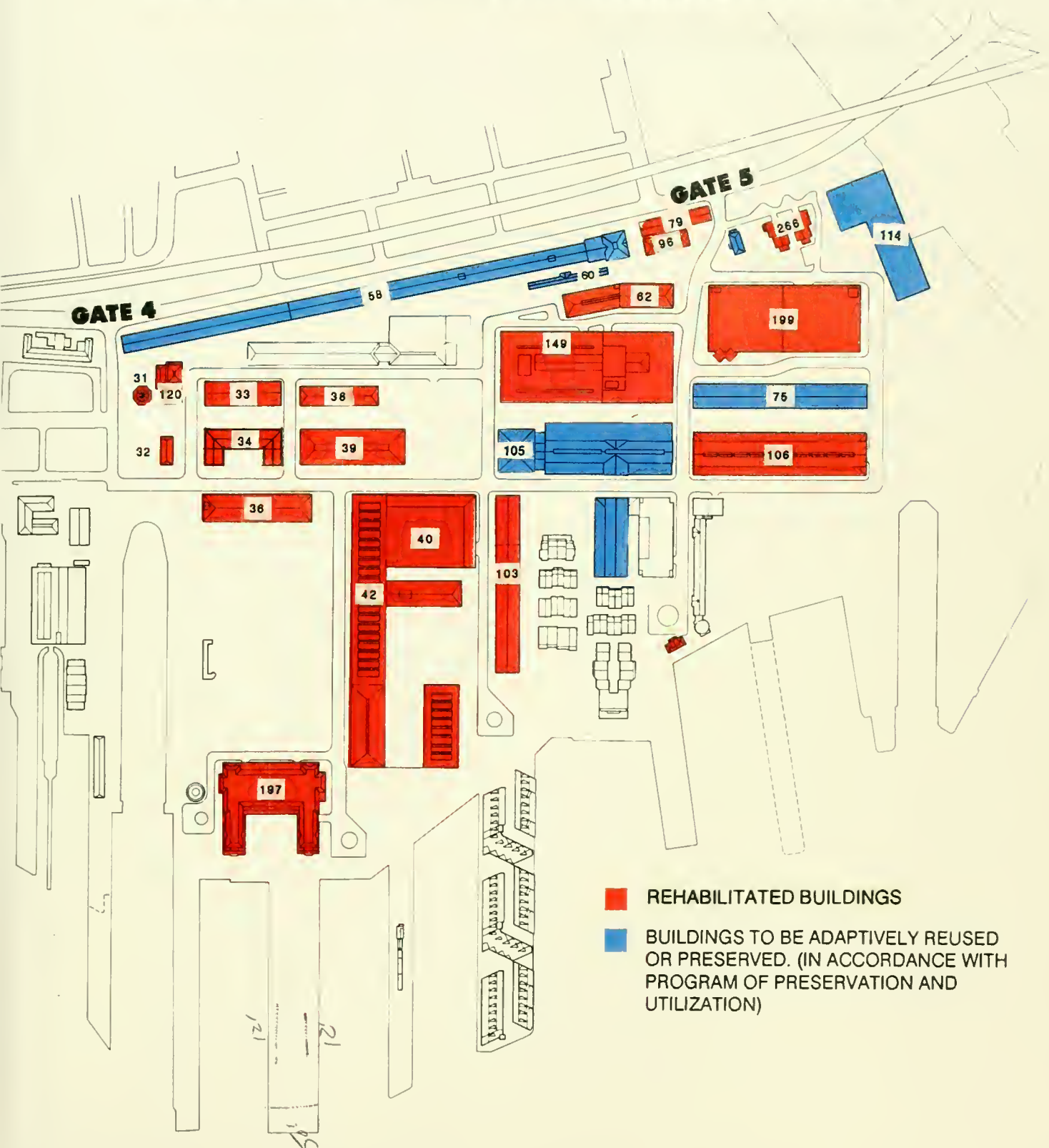
- **BUILDING 31** The Muster House - Built in 1852, it was used for roll call from 1852 to 1905, then became the telephone exchange and hearing clinic. It is now headquarters for the Courageous Sailing Center, with 6,000 sq. ft. of office space.
- **BUILDING 33** The Billings Building - Built in 1852, this 3-story granite building was originally used for cable and cordage storage. Building 33 now features a new interior gallery, linking 2nd and 3rd Avenues, a ground floor dedicated to a health club and upper floors which hold 34,000 sq. ft. of office space.
- **BUILDING 34** The Parris Building - Designed by Quincy Market architect Alexander Parris for use as a blue-print and reproduction shop, and built in 1838 of smooth faced granite, the rehabilitated building includes two new wings which were added to complete the original Parris design to create a central courtyard. The building contains 40,000 sq. ft. of office space on the upper floors and 10,000 sq. ft. of retail on the ground level.
- **BUILDING 36** Ironsides Place - Overlooking Shipyard Park and the harbor, Ironsides Place is a beautiful granite structure built in 1886 as a painters loft and joiners shop. This building was designed by Joseph Billings, who succeeded Parris as chief architect for the Navy Yard. The upper floors contain 56,000 sq. ft. of office space and the ground level has 9,000 sq. ft. dedicated to retail and a day care center.
- **BUILDING 38** The Cooper Building - Designed by Billings, was built in 1854 as a cooperage and packing house for supplying sailing ships. It later became the Navy prison, before being remodeled in 1924 as a recreational facility, eventually becoming the enlisted men's club in 1940. Nearing completion, this building will provide 24,000 sq. ft. of office space and 8,000 sq. ft. of retail.
- **BUILDING 39** The Carriage Building - Designed by Billings and built in 1886, was originally the Ordinance Shop. The building features 22,000 sq. ft. of ground floor retail and 72,000 sq. ft. of upper floor office space, with an arched passage through the building.

-
- **BUILDING 62** The Hemp House and Rope Test Lab designed by Parris was built in conjunction with the rest of the Ropewalk complex in 1837. This 37,000 sq. ft. building has been rehabilitated for office use.
 - **BUILDING 79** The Boiler House was designed by Billings and built in 1857. It is a two-story brick building, with heavily rusticated granite detailing and a gable roof. This 15,000 sq. ft. building is under construction and is scheduled for commercial use.
 - **BUILDING 96** The Power House Substation - The Power House is a small, turn-of-the century power plant. This 5,430 sq. ft. slate hipped roof structure is under construction and is planned for commercial use as a restaurant.
 - **BUILDING 103** The Anchorage, built in 1903, has a concrete frame with brick masonry and a wood sash. Renovations of the building were completed in 1985 with 112 subsidized elderly apartments comprising 90,300 sq. ft.
 - **BUILDING 106** The Basilica - Built in 1903, this steel frame brick-veneer structure with arcaded side aisles and a copper roof was originally used as a boiler and die-sink shop. The cavernous interior allows for a dramatic atrium in this 119,100 sq. ft. structure, which holds 92 units of rental housing, ten percent of which are affordable for elderly residents.
 - **BUILDING 120** John Paul Jones House - Built in 1905, this handsome building was designed as a medical dispensary and clinic. It now contains 16,000 sq. ft. of office space, currently the headquarters for two insurance companies.
 - **BUILDING 149** Constitution Park - This World War I era structure was used by the Navy for storage and for offices. It is a flat-roofed reinforced concrete structure with two distinctive 8- and 10-story atriums. Building 149 is the site of the Massachusetts General Hospital Medical Research Facility. The ground floor has been designed for 20,000 sq. ft. of retail use, including a restaurant and dry cleaners, and the upper floors contain 630,000 sq. ft. of offices and research facilities.
 - **BUILDING 199** Navy Yard Parking Facility - Built at the outbreak of World War II, Building 199 was constructed with a reinforced concrete grid system and horizontal brick spandrels. It was originally used for storage, and is now a 1,386 space garage.
 - **BUILDING 266** Captain's Quarters - Built between 1826-29, Building 266 is a series of attached classic revival brick rowhouses used as quarters for Naval officers. The 22,000 sq. ft. office space is now used by small professional, law and architectural firms.

THE YARD'S MOST ILLUSTRIOUS ARCHITECTS

Architects and Engineers	Navy Yard Projects	Other Boston Area Buildings
Colonel Loammi Baldwin (1790-1838) Father of Civil Engineering in America	First Navy Yard Master Plan (1828) Drydock No. 1	Mill Dam Project in Back Bay Holworthy Hall at Harvard
Alexander Parris (1780- 1852) Established Greek revival style in Boston from 1820 through 1840's and made granite the preferred material through the 1860's. The Navy Yard's Master Builder.	Engine Housing-Bldg. 22 (1831); a Storehouse-Bldg. 34 (1837); the Ropewalk (1837) - 1,360' by 45', supplied all the rope to the U.S. Navy until 1955; other buildings, walls, and quays.	Watertown Arsenal St. Paul's Cathedral Suffolk County Jail and Courthouse Faneuil Hall Market
Gridley J.F. Bryant (1816- 1899) Parris' assistant at the Navy Yard.	No buildings attributed directly to him; mastered granite shaping skills at the Yard that enabled him to later become famous.	Charles St. Jail (1851) Old City Hall (1865) other important granite structures throughout Boston.
Joseph E. Billings (1821-1880) Chief Civil Engineer at the Yard (1853-1866)	Carpenters and Joiners Shop- Bldg. 24 (1847); Tinnerns and Plumbers Shop-Bldg. 28 (1850); octagonal brick Muster Housing-Bldg. 31 (1854); granite Storehouse (1852).	Boston Museum (1846); National Theater (1852); Old Fellows Hall (1872); College Hall at Wellesley (1875); all of which have been demolished.

Charlestown Navy Yard Rehabilitated Buildings



Achieving the Plan:

Achieving the Plan

The Plan was developed to ensure that Charlestown's waterfront is accessible to all residents for housing, open space, transportation, public access to and along the harbor's edge, and commerce. The intent of the Harborpark zoning is to create a balance of these uses along the waterfront. The primary goals of the zoning are to provide continuous access along Boston's entire waterfront, protect the working waterfront by promoting water-dependent and water-related commercial activities, and promote balanced growth and mixed-use residential and commercial areas.

The **Harborpark District Zoning Plan** sets aside more than 1,000 acres of waterfront land as open space and initially reserves 660 acres for maritime industries. It includes requirements for 50% open space on new private development and public access along the perimeter of all sites. It creates height, density, and use controls and establishes development and design review guidelines. Development and design review requirements will guarantee that new waterfront development is in character with the existing waterfront and is compatible with nearby residential areas. The zoning also targets areas for affordable housing for Boston residents and establishes a Water Transportation Priority Area to guarantee that new projects incorporate docks or piers for shuttles, ferries, and water taxis.

The zoning for the **Charlestown Waterfront** area replaces the Harborpark Interim Planning Overlay District. The Harborpark IPOD was created in March 1987 to establish temporary zoning to assure appropriate growth and to protect the waterfront from inappropriate uses, permitted by the underlying zoning, while permanent zoning was being established. Since the IPOD was created, a comprehensive planning study has been developed, which the new zoning implements. The Charlestown Waterfront zoning plan includes:

A Housing Priority Area is established in the Navy Yard, in which two-thirds of any project must be housing. The Housing Priority Area includes piers and the area directly landward of them. Overall, housing in the Navy Yard will be 25% affordable. These requirements are consistent with the Massachusetts Historical Commission's Design Guidelines for this area.

Outside of the Historic Monument Area, fifty percent of all project areas must be preserved as open space with a major portion dedicated to the

public. Public access requirements require projects to provide a continuous walkway along the water, open to the public. In order to ensure that public access to the waterfront is maintained, setback provisions of 35 feet from the ends of piers and 12 foot setback from the sides of all piers are required. Public access requirements include a continuous walkway along the water, open to the public, called Harborwalk. The same 50% requirement applies to other land on the Charlestown Waterfront. Shipyard Park is established as an Open Space Subdistrict, unlike its current designation for multi-family housing.

This Plan includes many recommendations for the further revitalization of the Navy Yard. The implementation of this Plan will require close coordination with Federal authorities, the Massachusetts Historic Commission, and the Boston Landmarks Commission. The BRA is committed to working with these agencies to ensure consistency with the Program of Preservation and Utilization and with the Design Guidelines for the New Development Area. Their approval of these recommendations is a necessary prerequisite to their implementation. As such these agencies' participation is a crucial element of achieving the Plan.

Proposed projects on all waterfront lots must conform to environmental protection and safety standards for trash disposal, areas for recyclable materials and provision of safety ladders. Safety ladders must be located every one hundred feet along portions of the water with seawalls, piers, and wharves.

A 55 foot height limit applies for 150 feet back from the ends of Piers 5 and 7 in the Navy Yard, with a 75 foot height limit for the remainder of the piers. In the rest of the Housing Priority Area, the height limit is 75 feet. Within the Historic Monument Area, no zoning changes will be proposed until completion of an historic preservation review process with preservation groups.

In Yard's End, height limits range from 35 feet on Piers 6, 8, and 9 to 110 feet on the site of the new Aquarium, to 90 feet next to the Bricklayers housing stepping up to 155 feet for the planned hotel, up to 155 feet where the new research center will be located. Linkage contributions from the research center will be targeted to Charlestown affordable housing. Many of these recommendations will require amendment of the Massachusetts Historic Commission's Design Guidelines, but for the most part the recommendations are consistent with the Design Guidelines.

The Zoning Plan also reflects the metered build-out provided in the Master Plan for Yard's End. Occupancy of buildings at Yard's End prior to January 1, 1994 — the projected completion date of the Central Artery North Area Project — will be limited to the Aquarium, the hotel, Phase I of the research center, and Building 104 affordable housing development. Only after this time may Phase II of the research center be occupied — when adequate transportation improvements are in place to handle the additional traffic.

Proposed Navy Yard zoning includes provisions to ensure that specific impacts of each individual development are identified and mitigated. This is accomplished through extending the Development Review requirements to the Navy Yard. A Transportation Access Plan that includes a detailed analysis of existing traffic conditions, potential project impact and measures for mitigating adverse impacts, will be required for each major new project over 10,000 square feet in area.

In addition, the plan contemplates additional housing development in the Navy Yard: 24 units at Building 104, 110 units on Pier 5, and an additional 100 units within the Housing Priority Area or Special Study Area.

Limits on rooftop additions are established, stating that no roof structure may be erected or enlarged on the roof of an existing building without public notice and a hearing. Roof structures must be architecturally consistent with the distinctive historical and architectural character of the area, and with the Program of Preservation and Utilization or Design Guidelines.

At least 40% of the first floor of any project on piers must be devoted to facilities of public accommodation. No residential uses will be permitted on the first floor on piers.

To ensure the blending of new and old architecture along the waterfront the massing and character of buildings should reflect the historic, linear finger-pier wharf buildings. Buildings should be set back to allow for waterfront walkways, and massing and heights should be stepped up from the water's edge to allow for views of and from the waterfront and to provide a transition from the waterfront to the downtown skyline.

Ultimately these efforts will restore the harbor as a key resource for the city's social and economic life. The Harborpark District Zoning Plan ensures that the city's residents, workers and visitors will be able to take full advantage of the great natural resources offered by the harbor and surrounding waterfront.



Charlestown residential area

Acknowledgements

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Charlestown Economic
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